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THE COURSE OF STUDY

FOR THE

ELEMENTARY SCHOOLS

AND

JUNIOR HIGH SCHOOLS

OF

WEST VIRGINIA

1918

Prepared by
STATE BOARD OF EDUCATION

And Issued by
THE DEPARTMENT OF FREE SCHOOLS
M. P. Shawkey, State Superintendent
Charleston

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A MANUAL

CONTAINING

The Graded Course of Study

FOR THE

ELEMENTARY SCHOOLS

Including Grades 1-6

AND FOR THE

JUNIOR HIGH SCHOOLS

Including 7th, 8th and 9th Grades

STATE OF WEST VIRGINIA

EDITION OF 1918

Prepared by
THE STATE BOARD OF EDUCATION
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STATE BOARD OF EDUCATION:

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INTRODUCTORY.

In 1908 the State Legislature passed an act creating a State Board of Education. One of the duties of this Board is to prepare and publish a State Course of Study for Elementary and High Schools. In compliance with this statute the Board prepared and issued in 1909 a Manual of the courses of study for both elementary and high schools in a single volume. In 1912 the Board revised the courses of study for both elementary and high schools, but issued separate manuals for these two kinds of schools.Another revised edition was issued in 1914; a brief revised manual in 1917; and, this will be known as the edition of 1918.

For the sake of convenience of references this manual is divided into three sections. Section I contains several special articles written by individual members of the Board and the Daily Program of Studies. Section II contains an Outline of Studies by grades, indicating the text-book to be used, and the amount of each to be completed each year, or half-year. Section III contains a detailed outline of studies by subjects. For immediate reference Section II will be sufficient; but questions as to **how to teach** any given subject, and just **what to teach,** will be answered in Section III. Throughout Section II references are frequently made to Section III. Teachers are urged to study Section III as a text on pedagogy; for in this section most of the questions that confront the teacher in her daily class work are answered. Many of the examination questions for renewal of teachers' certificates and some of the questions on Theory and Art in the State Uniform Examinations will be taken from this manual.

In preparing this manual, the State Board of Education purposely departed from the usual practice by basing the material on what is known as the Six-three-three Plan which is fully explained in a special article (p 7). Teachers should welcome an opportunity to give an honest trial to a new method of organizing school work based upon child nature and social needs, and successfully tested in some of the best schools of the country.

In applying the new scheme of organization and the recommendations concerning supervised study (p. 8), and in following the detail suggestions which have been brought up to date, teachers will find an opportunity to advance the professional standing of themselves and our schools.

SECTION 1

Special Articles and Daily Program of Studies

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THE SIX-THREE-THREE PLAN.

For several years students of our educational system have been convinced that the present organization of our schools is faulty in one or two very important respects. It has become increasingly evident that the elementary school, consisting of eight grades, was failing to fit in well with the high school, consisting of two, three or four years above the elementary school. Pupils were leaving the upper grades of the elementary school in large numbers; and even if they completed the lower school, they often did not care to enter the high school. Investigations proved that this was usually because the pupils were not interested in the work of the upper grades and because the organization and discipline of the upper grades did not accord with the nature and temperament of the pupils.

In the endeavor to find a remedy for this unsatisfactory situation, educators conceived and planned a re-organization of the parts of the school system. The new plan is to have an elementary school of only six years instead of eight, a junior high school of three years, and a senior high school of three years. This is known as the "six-three-three" plan. It has been in operation in some states for a number of years, it has been tried out in many cities in West Virginia, and it has demonstrated its superiority to the older plan.

The State Board of Education of West Virginia has thought it highly desirable to introduce this new organization, modified to meet our needs, into the schools of the state. It is not proposed to alter, suddenly and completely, the present system, but to modify it gradually and allow it to introduce itself and justify itself. Certain weaknesses and lacks in adjustment are sure to result in changing from the present plan to the new one, and these must work themselves out gradually with as little friction and inconveniences as possible. These faults will disappear if teachers will reserve judgment and will work patiently to fit the new system in with the old.

One-room schools will find it most difficult to adopt the new system. The Board of Education recommends that one-room schools adopt the six-year elementary course and at least the first two years of the junior high school course. This will not entail any more work than is done at present. For the present diplomas will be awarded to pupils finishing this amount of work. Whenever it is possible, however, even the one-room school should add the last year of the junior high school. This can be done where the pupils are few and some of the lower and intermediate grades unrepresented. Of course, this will involve advanced study on the part of the teacher, but most teachers will be willing to work hard to equip themselves for teaching the new subjects.

Schools of two or more rooms are expected to start in the new plan as soon as possible, and, whenever it is desirable one-room schools should be consolidated that the new plan may be inaugurated. Village and town schools which already have a high school will have no difficulty in reorganizing their system to conform to the six-three-three plan.

According to the new plan, the elementary schools will aim to complete in six years the fundamental elementary subject matter. By the end of this period the pupils should have gained possession of the tools of knowledge, such as ability

to read well, to do necessary arithmetical calculations, to write, spell, speak; and such fundamental knowledge as the essentials in Geography, History and Hygiene. This means that all non-essentials must be eliminated from the course of study, and that by economical methods of teaching, the ground-work of a schooling shall be laid down.

The junior high school will not at present introduce any new subjects except whenever possible Domestic Science and Manual Training, and whenever possible such subjects as are usually included in the first year of the high school as at present organized. The discipline of the junior high school should be freer than that in the elementary school and pupils should be encouraged to test themselves out in different subjects to discover what their talents and capacities are. The senior high school will not differ materially from the last three years of the high school as at present organized. The three departments of the school should be kept as distinct as possible.

SUPERVISED STUDY.

Most teachers accept the theory that "telling" is a very poor general method of teaching, and that much time is wasted by having pupils report, in the ordinary recitation, what they already know. Furthermore, most teachers readily agree that sound learning is secured at the most satisfactory rate by pupils at interesting study or work. Supervised study is intended to help the pupil avoid waste in time and effort by pointing out the way to interesting, profitable schoolroom work, and to aid them to do the work so that a maximum of learning is accomplished by each student during the school day. The following paragraphs are intended to show how such a result may be obtained through what is called "Supervised Study."

A teacher of a small one-room school has set aside twenty minutes for the upper grade arithmetic class consisting of five pupils. She calls the class and by questioning learns that the problems assigned have been solved. She may spend about eight minutes in having each student tell clearly how one of the problems should be solved in order to test the pupil's understanding and method, or may use that time in having one student under the direction and inspection of the others solve a problem that has an important principle or difficult point. This eight minutes may be considered the **recitation** or **testing** part of the class period. Then the **assignment** of the next lesson should be made in a way to arouse the interest of the class and to show them how to go about mastering the lesson. This **assignment** which should insure profitable study of the lesson may require about four minutes. At this point the class may remain in recitation seats, go to the blackboard, or return to their own seats for eight minutes of intensive study under the direction of the teacher. The teacher will offer help on request of a member of the class and go quietly from pupil to pupil, not depriving them of work by unnecessary help, but giving suggestions that will aid the pupils in working out the lesson assigned. One or more backward pupils in this subject may need much special assistance. After eight minutes of this intensive **supervised study** the recitation period will close.

Now, we may think of a high school class in history consisting of twenty-five pupils in a standard recitation room with a special teacher in charge. The recitation period, instead of being forty or forty-five minutes in length has been extended to sixty or sixty-five minutes. By expanding the process explained in the last paragraph the teacher may use about twenty minutes in **testing** the pupil's

preparation of the lesson. Many of the testing questions should require the pupil to apply his knowledge of the lesson to situations differing from the routine of the textbook. Oftentimes the testing may be in the form of extended oral reports. Then, the next or new lesson will be taken up by giving five to eight minutes for the **assignment** which, as stated above, will include reference to its relation to the lessons completed and the directing of attention to new facts or principles it contains with suggestions as to how the difficult parts can be mastered most easily. It will now be seen that about thirty minutes of the period remains for the study of the new lesson under the direction of the teacher. During this silent study-period, "it will be necessary for the teacher to go among the pupils, directing those who need further explanations and noting the acumen of each pupil. In this way the pupil's progress can be measured just as well as during the customary recitation period." If the new lesson is not well learned at the end of this period, the pupils should, at least, be well on the way to completing the work assigned.

In a well organized high school with a sufficient number of trained teachers, the class-period may be lengthened to eighty or ninety minutes and the time given to "supervised study" lengthened accordingly. Under this plan the school day should be lengthened and home study reduced to the minimum.

Alfred L. Hall-Quest who has made a thorough study of this subject, sets forth the following cautions for those introducing supervised study:

1. Before undertaking this form of school organization and procedure, study carefully the meaning and the typical methods of supervised study. Consider fully the changes and their probable effects upon the pupils, the teachers, and patrons.
2. Experiment first with one or two subjects. Adapt the new plan to local conditions.
3. Plan to lengthen the school day and to reduce the amount of home study.
4. Principals and teachers undertaking this work should know the psychology and the underlying principles of method as applied to each subject to be taught by the supervised study plan. (**Psychology of High School Subjects** by C. H. Judd, Ginn & Co., Chicago, and the **Psychology of the Common Branches** by F. N. Freeman, are recommended for such study.)

The State Board of Education recommends the introduction of Supervised Study in the junior high schools and regular high schools for the following reasons:

1. It will require teachers to make a thorough study of the best methods of teaching their special subjects. At present many high school teachers are drearily following very poor methods of college and university teachers.
2. The plan will do away with the study-hall plan that requires teachers to spend much time in "bossing" a room full and to attempt to give help in many subjects about which they are poorly informed.
3. It affords help to the pupils when they are helping themselves, and assists them to overcome obstacles at once that might otherwise cause much delay in their progress.
4. Supervised study should lengthen the school day and thus afford added opportunity for the school to aid and require pupils to complete the school course in a thorough way.
5. It will reduce the number of failures, make the teacher a co-operator with pupils and not a lecturer and dictator, and tend to make the school a social group working hard and effectively upon worth-while and definitely stated questions and problems.

The books listed below are recommended to those interested in this subject:
Supervised Study—Hall-Quest, Macmillan Co., New York.
The Art of Study—Hinsdale, The American Book Co., New York.
How to Study—McMurry, Houghton Mifflin Co., New York.
Teaching Children to Study—Earhart, Houghton Mifflin Co., New York.
How to Study Effectively—Whipple.
How to Train Pupils to Study—Wilson.

MEASURING SCHOOL PRODUCTS.

In recent years the improvement in school education has been considerable. Much of this improvement, if not most of it, has been due to what is called measuring school products by teachers, principals, superintendents and others who are studying the school problems. This measuring the quantity and quality of the learning done by pupils consists in making use of the scientific method of procedure instead of mere opinion as a guide. Experiment takes the place of guessing at the progress and attainments of pupils.

Teachers who have the courage and the industry to try experimental measuring of their pupils' work will find it one of the most effective ways to improve themselves as well as their schools. It has had this effect where it has been tried.

There are at least two books on the market that give in simple manner the tests that have been worked out and some directions for using them. Tests have not yet been prepared for all subjects, but most of the elementary subjects have been quite well done. These two books are:

Starch—Educational Measurements. Macmillan Co., $1.25.

Chapman and Rush—Scientific Measurements of Schoolroom Products. Silver Burdett & Co.

RURAL SCHOOL EQUIPMENT.

We are familiar with the multiplication of man's powers through the aids of machinery; also, with the special advantages added through high grade machinery or tools. While the cases are not entirely similar, the school equipment to the teacher is much as the tools to the worker. Communities should gladly furnish proper equipment so as to get the most service from the teachers employed, but, if the equipment is not furnished, the teacher should try to secure it in order to insure her own full success which means her own full happiness.

School house and out-buildings in good repair, provision for pure drinking water, suitable desks for pupils, a desk and chair for the teacher, a good stove and plenty of fuel, brooms, chalk, and erasers, clean floor and walls—these conditions and materials should be found at every school house at the opening of school. If any of these minimum essentials are lacking, the teacher should courteously and insistently urge the trustees or board of education to make good the deficiency.

The library should be a part of every school's equipment. At first, it should consist of the most usable books—handy volumes of good literature used as supplementary readers, books of historical and geographical references, a dictionary, and at least one book of general information, even if it cannot be more than the World Almanac. Later, books of more general reading can be added. A standard one-room school should have at least 100 volumes in its library.

A lot of money has been wasted by teachers who did not know what books to buy. If teachers will follow suggestions in the Library Day Annual, prepared by the Department of Schools, they will save money and secure better books. Boards of education may use public money to assist in the purchase of library books that are chosen from the official state list. It is of small worth to buy books unless they can be kept in a case. This case need not be expensive. In nearly every school may be found one or more boys who will gladly make a library case, or a neighborhood carpenter who will make a case at small cost. Teachers are urged to keep the library in first class condition, and to make careful record of all books taken out. The proper care and use of a library are better tests of a teacher than is the securing of the books.

There should be several wall maps, a globe and a primary reading chart (approved by good authority). Boards of education can easily be persuaded to supply these and help supply a library if the matter is brought to their attention in the right way.

Much valuable equipment can be made or furnished by the teacher, pupils, and patrons. Any school ought to be able to make a neat, strong box, say 4 ft. by 2½ ft., 4 in. deep, and fill it with clean sand. That is a sand table to make happy the little folks, and to aid in the teaching of geography, nature study, agriculture, history and reading. A dictionary stand, a table for papers and magazines, wall holders for lamps, dividers for making circles and parallel lines on blackboard, necessary shelves, pointers, rulers, and much simple busy work material can be made by the school or by persons who are glad to help a tactful teacher.

These are but a few suggestions that might be made. The finer work of the school can be done by means of equipment not usually furnished by boards of education. It will all depend upon the ingenuity and skill of the teacher. Visit some good local book or school supply store or secure a catalogue of one of our leading state book stores for suggestions. The catalogue of A. Flanagan Company, Chicago; Milton Bradley Co., Philadelphia; Dodson Evans Co., Columbus, O.; Virginia School Supply Co., Richmond, Va., and others will be suggestive to teachers, since they make a specialty of such equipment. Any good book on methods of teaching will aid the teacher. The time has come when merely assigning lessons and hearing recitations out of books will not do. Such methods have never done well. The modern school room should be somewhat like a well ordered shop or laboratory.

BEAUTIFYING THE SCHOOL.

Any good observer can testify that "adaptation to environment" is the great law of nature. Plants and animals in many ways suit themselves to the food, the climate, and even the color of their environment. The child, too, will carry through life the impress of its surroundings. The silent influences of school surroundings pouring in upon the receptive natures of pupils during their 5,000 to 8,000 hours of school room life may out-teach the teachers for good or for evil. The well understood importance of proper school environment should spur every good teacher to determined efforts to make school property as nearly ideal as possible.

The Walls. An uncoated, plastered wall is not only an ugly and unattractive thing to look at, but it is also an actual source of injury to the eye. Practically nowhere in nature, do we find such an environment facing us. Physicians are

of the opinion that a strong glare on the eye for a long time is a source of serious eye strain, with accompanying nervousness and restlessness. In our homes we usually strive to cover the plastered wall with some appropriate color.

Teachers should know how to select colors for a schoolroom wall so as to be able to advise boards of education or to select paints purchased by the efforts of the school. For the plastered wall tinted preparations of the nature of the one in common use, called Alabastine, are not expensive, are quite durable, and come in an excellent range and variety of shades. For the wood it is better to use some of the so-called "flat" interior paints, that is, paints with a dull rather than a gloss surface. These are more expensive than the washes, such as the Alabastine, but they have the advantage that when they become soiled they can be sponged off and cleansed. We should avoid such colors as yellow, orange and red. The greens, of which there is a wonderful range of tints, are both artistic, and soothing to the eye. Through countless ages our eyes have been getting accustomed to the various shades of green in the vegetation that surrounds us out of doors. Some buffs and light browns and some light shades of blue may do for certain rooms. Suggestions for color schemes will be found in the cards and other advertising matter issued by paint manufacturers, but where the teacher, with whatever assistance can be secured, undertakes to put on a coat of paint or other coating a single tint properly selected will do very well.

Miscellaneous Decorations.

While pictures will make up the chief decoration of a school-room, teachers should note the possibilities of other materials that help to determine the appearance of the school-room.

Curtains and Blinds. Under the leadership of a wide-awake teacher, especially a lady teacher, the women of the neighborhood or the older school girls will make neat, light curtains for the lower part of the windows. These should be pushed back on dark days. Once secured, the curtains must be kept clean and in order or they add dirt and ugliness. The blinds of many school-rooms are half torn from the rollers. Why will teachers not show their thriftiness and good taste by fixing these?

Flags and Banners. A bright, clean flag or banner of medium size, well displayed, adds an attractive touch to a school-room. Good housekeeping and proper respect for the flag should cause all old, dusty flags, banners, and bunting to be removed. As a rule it is best to use flags, not as permanent decoration, but for special occasions.

Casts. Schools well enough developed to be ambitious to add special signs of art appreciation and culture, should try to secure some casts—copies of famous sculptures or busts of persons of historical or literary fame. P. P. Caproni & Bro., Boston, Mass., and The C. Hennecke Co., Milwaukee, Wis., issue catalogues giving full particulars about casts for schools.

Flowers. The great variety of flowers, evergreens, decorative berries, and autumn leaves makes it possible for a teacher to add, at all seasons, a bit of cheer by the artistic use of some of these. Flowers speak a fine message to a school.

Pictures. The first step in decoration will often be the removal of cheap, gaudy, unframed pictures put up with unsightly tacks or nails, and odd calendars, shoe and coffin advertisements, dirty bunting or banners, cobwebs, and plain dirt.

A Few Good Pictures. It does not require many pictures to decorate a schoolroom, one good one being better than a dozen very cheap ones. However,

any school ought to be able to secure three or four good-sized, well-framed pictures. In addition to the few permanent, larger pictures here referred to, groups of small pictures can be placed, from time to time, in appropriate wall space. Do not show bad taste by "sticking up " in your schoolroom every "pretty picture" that you find. Interesting pictures from papers and magazines can be placed on the school bulletin board for pupils to examine or as a basis of some school work.

Picture Frames. A picture frame should be a modest, harmonizing, durable border to help show the picture to best advantage. A gaudy frame or one not in harmony with the color scheme of the picture advertises itself and the poor taste of the teacher and detracts from the picture itself. Skillful teachers can frame pictures of medium size with black or green **passepartout** which can be secured for a few cents at a drug store or school supply store. If pictures the size of small window panes are purchased, the glass problem becomes simple. A school of several rooms where a work shop is maintained can well afford a mitre machine for making joints for picture frames and other manual training projects. Some schools have paid for such a machine ($10.00 or $12.00) by framing pictures for patrons.

Proper Arrangement of Pictures. Give a picture a chance by placing it where it will be seen to best advantage—a large picture in a large space, a narrow picture in a narrow space between windows, or at the side and a little above or below a similar picture to fill a larger space, small pictures in groups that can be changed. Make hangings—wire, strings, nails, tacks—as inconspicuous as possible. Send for a few cents worth of special tacks for suspending pictures. Do not place pictures very high on the walls or in a straight row around the rooms. Seek to give the schoolroom a cozy, homelike appearance.

Selection of Pictures. Too many teachers make their first choices for schoolroom pictures from the presidents, vice presidents, and candidates. It is well to hold up a high ideal through good pictures of Washington and Lincoln, but it is not best to have too many faces looking down upon children day after day when there is a hunger and a need for a variety of scenes that make special appeals to children. Choose pictures from the masters. Remember pupils of different grades and interests. (See list below). Ask questions to bring out the pupils' notions of the picture and let them hold to some of their own impressions. Tell the story of the picture and the artist. The list which follows is intended as a suggestion, and should not be followed rigidly. Some teachers allow pupils to express preferences from catalogues. Any wide-awake teacher teaching any place in West Virginia can secure some good pictures for the schoolroom. The suggestive list follows:

First Grade.

Baby Stuart.....Van Dyck
Can't You Talk.....Holmes
Mother and Child.....Toulmache
Feeding Her Birds.....Millet
Learning A, B, C.....Defregger
A Fair Wind.....Raupp
Madonna of the Chair.....Raphael
Hiawatha.....Norris
A Helping Hand.....Renouf

Second Grade.

Brittany Sheep.....Bonheur
Age of Innocence.....Reynolds
Friends or Foes.....Barber
Which Do You Like.....Holmes
Children's Hour.....Taylor
Mother and Daughter.....Douglas
Mother and Child.....LeBrun
Christ Blessing Little Children, Hoffman & Plockhorst
The First Steps.....Millet

Third Grade.

Three Members of a Temperanee Society.....Herring
The Little Scholar.....Bonguereau
The Child Christ.....Murillo
The Horse Fair.....Bonheur
The Old Monarch.....Bonheur
The Watering Plaee.....Gainsborough
The Minute Man.....Freneh

Fourth Grade.

Washington, Portrait....Rembrandt, Peale and Stuart
The Gleaners.....Millet
Horse Fair.....Bonheur
Call to the Ferryman.....Knight
Haying Time.....Dupre
Distinguished Member of Humane Society...Landseer
Return to the Farm.....Troyou
The Boy Shepherd.....Murillo
Playmates.....Merle

Fifth Grade.

Jesus in the Temple.....Hoffman
At the Watering Trough.....Dagnan-Bonveret
Spring.....Mauve
Children of the Sea.....Israels
Whittier's Portrait.....
Pilgrims Going to Chureh.....Boughton
Holy Night.....Le Rolle
Sistine Madonna.....Raphael

Sixth Grade.

The Windmill.....Van Ruysdael
Concord Bridge.....
Sir Galahad.....Watts
The Aurora.....Reni
The Sower.....Millet
The Avenue of Trees.....Gobbema

Seventh and Eighth Grades.

Autumn.....Mauve
The Coliseum.....
Reading from Homer.....Alma-Tadema
Hope.....Burne-Jones
Lineoln, Portrait.....
The Haymaker.....Adan
The Shepherdess.....Millet
Angelus.....Millet
Breaking Home Ties.....Hovenden
Washington, Portrait.....Stuart
Song of the Lark.....Breton

SANITATION.

Fight the Germs. Sanitation is no longer a fad. Science and experience have demonstrated that diseases can be prevented, that the bad effects of disease can be much reduced, and that the health of children can be greatly improved through teaching, and strict compliance with well-known laws of health. It seems appropriate here to quote two paragraphs from the former State Manual:

> "These things are not an idle dream; they are practical scientific possibilities. The adopted textbooks in hygiene, sanitation and physiology give a fine lot of information that should be used to this end; but physiological knowledge is one of the most useless kinds of knowledge, merely as knowledge, just as it is one of the most valuable kinds of knowledge when applied. The teacher should have a burning enthusiasm for knowledge of this sort, should seek it and acquire it from all possible sources, and in all cases should be in her school and in her community a tireless missionary of the great gospel of good health.
>
> "The teacher should above all things else try to control the health conditions of her schoolroom. The room should be clean and every known sanitary principle within her power should be applied. For instance, the best air there is is that out of doors, and the one general principle of ventilation is to bring this air in as freely as is possible. Every dust mote may be the aeroplane of a jolly party of germs, ambitious to make explorations and settlements in some child's nose or mouth or lungs. Therefore, the dust mote should reach the ground outside otherwise than by flight through the air. Blackboards should be cleaned outside of school hours in order to reduce the danger from

chalk dust. A dozen kinds of germs are lurking in the common drinking cup, and the weakest, the strongest, or the dearest child of the school may be the next object of attack by a colony of the most deadly germs."

It is as much the duty of the teacher to fight the enemies of the pupils' health as it is for our soldiers to fight the enemies of our country.

Enforce the Law. Senate Bill No. 129 passed by the Legislature of 1915 gives the Public Health Council power to make regulations concerning sanitation. The following regulations are quoted from a bulletin issued by the Public Health Council and have the full force and effect of law. Violators of any of these regulations including teachers shall upon conviction be punished as provided by law.

Water for Washing. Water and soap for hand washing shall be provided, but no common towel shall be used in any public school in the State. Paper towels are recommended, but pupils may be permitted to use their own private towels.

Drinking Water. Boards of education or other school officers in charge shall see that their schools are provided with, or have access to, an abundant supply of pure drinking water. Buckets and all other open water receptacles are forbidden, and also the use of the common drinking cup. Sanitary drinking fountains or individual drinking cups shall be used exclusively in all schools. Where it is necessary to use a water receptacle, a closed jar, tank or coolor with faucet shall be provided, which shall be kept clean and which shall have its contents renewed at least every morning.

Sweeping of Rooms. No class room shall be swept except after all school exercises for the given day have been concluded, and no floor of a school room shall be swept without first having been covered with damp sawdust or other suitable preparation for this purpose. All sweepings or waste shall be removed from each school room daily. The seats, desks and other furniture shall be wiped down with an oiled or paraffined cloth every day after the dust has settled, and the woodwork or finishing of every schoolroom and of every hallway or corridor shall be wiped down in the same way at least once a week.

Sanitation of School Buildings and Grounds. The Public Health Council shall, whenever it deems necessary or advisable, cause an investigation of the sanitary condition of any school house, building or ground used for school purposes. If they shall find that such school house, building or ground is in any respect a menace, or likely to become a menace, to the health or physical welfare of the pupils or teachers, they shall call the attention of the local Board of Health to the fact; and if, after a reasonable length of time the complaint has not been attended to in a satisfactory way, they shall either order such changes as in their judgment will make the building and grounds safe and sanitary for school purposes, or condemn the same and forbid their further use.

It shall be the duty of the School Board of the district forthwith on notification to make the changes ordered, and the cost of the same shall be a charge upon the district.

Diseases. Pupils actually infected with the following named diseases shall be excluded from school during the existence of the disease, and shall be readmitted only upon presenting a certificate from a licensed physician attesting to their recovery: Tonsilitis, trachoma, scabies (itch), pediculosis capitis (head lice), pediculosis corporis (body lice), tinea circinata (ringworm), impetigo contagiosa, favus. The teacher or principal shall exclude from school any child suspected

to be suffering from any communicable disease, pending examination and report from a licensed physician.

No child who has suffered and recovered from a communicable disease, shall be permitted to enter any school except upon certificate of a competent licensed physician, setting forth that all rules and regulations have been complied with, and that the child presents no evidence of disease and is incapable of conveying infection.

No person suffering from any communicable disease shall be employed as teacher or janitor, or in any capacity which brings him or her in contact with children in any public school in the State.

No person, either as teacher or pupil, afflicted or suspected to be afflicted with trachoma shall be allowed to attend any public, parochial or private school in the State, and no person excluded from school for this cause shall be readmitted except after having been treated and relieved of any contagious disease of the eyes.

No person shall be entered as a teacher, employee or pupil in any school in the State without having first presented to the principal in charge or the proper authority a certificate from a competent licensed physician of this State, certifying that the said teacher, employee or pupil has been successfully vaccinated against smallpox; or in lieu of a certificate of successful vaccination, a certificate certifying that a recent vaccination has been done in a proper manner, or proof of immunity by reason of having had the smallpox.

Teachers boarding or residing in a family in which any disease subject to quarantine is known or suspected to exist, shall immediately move to premises not so infected, and provided they have not been actually exposed to infection, may be allowed to continue their attendance at school, provided, that in the case of smallpox such teachers shall have been successfully vaccinated within five years; and in case of diphtheria that bacteriological examination of the discharges from the nose and throat proves negative, they may be permitted to resume their school duties.

GRADING AND PROMOTIONS IN RURAL SCHOOLS.

One of the chief difficulties in carrying out instructions in this course of study will be the grading of the pupils. And yet it is a rather simple matter as a general proposition. Its difficulty is found in applying the general principle to particular pupils.

Suppose you have a school that has never been graded, or at least has been only very poorly graded. The first thing to do is to determine what pupils should be in the first grade. Of course, all who are just starting to school for the first time will be in that grade. Normally we would expect them to be six years of age. But some of them may be seven or eight years of age.

Furthermore, there will likely be some who have been in school one or two years, but, because of irregular attendance, poor teaching or dullness on their part, have not learned enough of the first grade work to do the work of the second grade. These will also be in the first grade. Once it is determined what pupils will do the work of the first year, you have your first grade organized. Then you go to the course of study and find just what work these pupils will do. Similarly the teacher will organize the pupils into classes of the second grade, third grade, and so on up through the eight grades, if all the grades are represented.

And by referring to the course of study the teacher can tell just what work each grade will do and what books they will study.

It is to be hoped that no teacher in the state will hereafter disregard the course of study and go on in the old way of trying to teach each pupil in a class by himself. Even during the past year teachers have been found with as many as a dozen classes in arithmetic, each pupil working by himself and going as far each day as he could work the examples or solve the problems. Such individual teaching might not be very bad if properly done, but no teacher has time to do this. Some of the pupils will be neglected and the neglect usually comes to the smaller ones who really need most attention.

Once the school is graded the matter of promoting next claims attention. Normally the first grade would be promoted to the second grade at the end of the year, the second to the third and so on up to the eighth grade, who would receive their diplomas. But it does not always work out so in actual practice. Some pupils will do better than others. The test for promotion should always be ability of the pupil to do the work of the next higher grade. If at any time a pupil can do the work of the next higher grade, he should be promoted. It is not right for a teacher to depend upon formal examinations and tests as bases for promotions. Thorough investigations show that such tests are unreliable. Class records, try-outs, and scientific measurements (p. 10) should be used when possible. This situation will not often arise unless there be pupils whose age would normally place them in a higher grade. In such cases the pupils should be given a trial in the grade of their age, or the grade next above the one in which they have been placed. It may be that a teacher will misjudge a pupil's ability to do the work of a given grade and place him in a grade too high. This misjudgment is all the more likely where poor records of the pupil's work have been kept, the teacher being compelled to rely on the pupil's statement or a brief oral examination. In such case the pupil should, after a fair trial, be placed in the next lower grade.

The classification of pupils by grades is a means of economizing the time and energy of the teacher. The chief reason why grading is important in a rural school is that a teacher can in fifteen minutes teach a half dozen pupils more and better in a class than if she gives each of them 2½ minutes separately. And since the rural teacher has from six to eight grades, it is the only way she can distribute her time so as to get the best results in the short time at her disposal. Furthermore, there is something to be gained by the association of pupils in a class. They learn from one another and have a means of measuring their attainments with those of their fellows.

EXAMINATIONS AND THE FREE SCHOOL DIPLOMA.

There should be no written examinations for promotion below the fourth or fifth grade. There may be written exercises of the nature of examinations. Even then and thereafter promotion should not be determined wholly by the results of the examinations. The teacher should keep in mind always that the true test for promotion is ability to do the work of the next higher grade. The examination, therefore, should be only one means of determining this ability. The examination should be a fair test of the pupil's knowledge of the work he has been doing, and at the same time should be a test of the pupil's ability to generalize from this knowledge and apply it to new situations.

The final examination for the free school diploma will be prepared by the State Superintendent. This examination will aim to test the pupil's knowledge of the elementary subjects. It will determine first, whether or not the pupil has received all from the elementary grades that it is worth while to get, and second, whether or not he is prepared to do the work of the first year in high school. Teachers should fully co-operate with county superintendents in an effort to safeguard the issuance of common school diplomas, so that this important credential will retain its proper value.

The free school diploma is serving as a fine incentive for pupils to complete the elementary grades, especially where a high school is within reach of the pupils. Teachers will be rendering a great service not only to their pupils but also to the state by acquainting the boys and girls with the value of finishing the course and receiving the diploma. To develop the habit of finishing a task once begun is an essential step toward success in life. Winning promotions year by year and finally this diploma will be a valuable contribution toward fixing such a habit.

LITERARY AND SOCIAL CENTER EXERCISES.

Every school ought to make some provision for so-called "literary or social center exercises." It is perhaps best for certain reasons to have this done in the school under the supervision of the teacher, but if there is sufficient interest among the patrons to maintain a good literary society or social center meeting in the school house at night, it is well to organize it. The literary exercises of the school cannot assume that breadth of scope which the literary society for the whole community does.

The school should, in a measure at least, become a social center for the district. The regular meetings of a literary society furnish the opportunity and occasion for the patrons of the school to meet and discuss the subjects that are of interest to them. It affords the teacher also an opportunity to meet the patrons, to become acquainted with them, to explain the work of the school, to interest them in its work, and to enlist their co-operation.

There will always be in every community those whose ability and information fit them to discuss the larger questions of the day. They bring to these discussions the results of their own experience and knowledge of affairs, and the younger members of the society profit greatly by hearing them. In this way such an organization renders both an intellectual and a social service.

Teachers must not lose sight of the impressionable nature of young folks—of their inquisitiveness, dreamings, ambitions, and habits of imitation. The public meetings, if well planned and managed, will make good use of such possibilities of giving information, stirring desire to be and do, and of making proper ideals of public welfare and organized procedure. Such meetings should be conducted so as to give pupils instructions and practice in presiding, making motions, keeping minutes, making short organized talks and arguments, etc.

The work, so far as it is under the direction of the teacher, should be carefully supervised. Pupils left to themselves are apt to select readings, recitations, etc., with reference to some vein of humor which is apt to be coarse. The literary work should aid in the appreciation of good literature. To this end the teacher should help the pupil to select his material from writers of known ability and reputation. The fact that material of this kind can be used in the literary work furnishes a stronger motive for the careful memorizing of select poems and other selections from literature.

The exercises of most value to the pupil, however, are those which call upon him to work up in his own way the material which he may have accumulated on any subject. This is original work. Theme writing is to literature and reading what the laboratory is to scientific study. It is the means of working up into usable form the materials which one collects. Hence the essay, oration, or written debate is valuable in developing the original power of the pupil and teaches him to arrange his ideas and express them in the most forcible way.

Those in charge of the schools should not be content to keep on holding such meetings in the same routine fashion without any show of definite purposes or originality. Let the teacher enlist the best talent of the community for such projects and programs as are suggested below:

1. How Can We Improve Our School Property?
2. How Can We Make Our Community More Sanitary?
3. How Can We Make our Community More Beautiful?
4. How Can We Produce More In Our Community?
5. Local History.
6. Special Days.

(State and National bulletins, journals, magazines, and papers are full of suggestions for such programs.)

7. Athletic and Play Days.
8. Parades and Exhibitions, including Floats, Demonstrations and Pantomimes.
9. Fairs and Exhibits.

(The Extension Department of The College of Agriculture, Morgantown, can help much with these.)

10. Community Singing and Special Music.
11. Evenings With the Poets and Artists.

The State Department of Schools will be pleased to give suggestions and material for such programs to teachers who make inquiry.

READING CIRCLE WORK.

First. The value of the Reading Circle work to the teacher lies **first** in this, that it selects his professional books for him. The texts recommended for study from year to year are selected with especial care, both as to their treatment of the subject and as to their adaptation to the needs of the teachers of the state. They can be depended upon as being sound in their teaching, and they are selected with reference to the particular needs of our own state. Many books are examined before a selection is made. With the great multiplicity of books on educational subjects now coming from the press, the matter of proper selection of one's professional reading is of great importance to the teacher.

Second. Every teacher, whether he has had a normal course or not, must read some educational books in order to grow professionally. No teacher can long continue to do successful work who is not keeping up with the progress in his profession.

This progress has been so rapid in recent years that it requires the teacher to be on the alert all the time. Ten years has seen almost a complete change in the view of the purpose of the school and of the methods of attaining that purpose. These changes are reflected in the more recent books and literature and, therefore, they are the sources to which teachers must go for their own knowl-

edge of the progress and current tendencies in education. Constant reading of the literature of the profession is necessary to one's professional growth.

Third. The aim in the Reading Circle work is to select books from year to year so as to present different phases of education or different fields of study. The history of education, psychology, method and the general principles of teaching, all, by this means, receive their proper consideration and the teacher's professional reading maintains a balance and proportion which it otherwise might not have.

Fourth. By the purchase from year to year of the books recommended for reading, one soon accumulates a library of well-selected professional books with which he is thoroughly familiar. Frequent reading and study of these works help, at least, to furnish clearer ideas of the purposes of the public school and of the processes of educating the child. The more clearly these purposes and processes are seen the more direct become the efforts of the teacher and the better are the results of his teaching. In other words, careful study of the books prescribed in the Reading Circle will tend to more efficient work by the teacher.

Fifth. An actual, immediate money value may attach to Reading Circle work. Teachers passing a uniform examination on two prescribed Reading Circle books in any year with grades of 85% or more, can secure a Coupon of Credit, which has a cash value of one dollar per month additional salary for the time taught in that year. The same kind of coupon may be secured by doing credit home-class study in the Reading Circle books offered by some of the state normal schools.

PLAY.

All normal children like to play. If a child shows no interest in games, that child should give the teacher concern similar to that felt for a sick child. The wise teacher will turn to good account the universal play instinct. Through its proper exercise and guidance children can be developed physically; relieved of over-timidity in the company of others; taught the important rules of give-and-take and unselfish co-operation for the common good of the team and group; impressed with the importance and dignity of fair play; and brought into good relationship with fellow pupils and teacher. While the foregoing results should be obtained through games, they must not interfere with joyous, free play for the sake of fun which, after all, is necessary to secure the objects enumerated.

We do not have enough variety in our games and do not always organize our contests so as to bring out the most zest. Since play is such an important element in the school program, teachers should feel responsible for knowing the subjects as they do arithmetic or grammar. Make a study of some of the material listed in the paragraph below.

In schools large enough, contests between rooms, and classes should be staged. On some special occasions, athletic contests, especially field meets including contests for all sizes of children, should be held. Leaders of such contests should be familiar with the rules and see that the events are conducted in the best form.

For further study of games it is recommended that the teacher procure a copy of "Games for the Playground, Home, School and Gymnasium," by Jessie H. Bancroft, published by the Macmillan Company, New York. It names and describes a large number of games suitable for each grade in the elementary school. Another book of games costing less is Johnston's "What to Do at Recess;" Ginn & Co., New York, price 25 cents.

CHARACTER AND HABITS.

Proper behavior should be one of the major aims of education. Knowledge finds its proper use through behavior determined by sound character. An individual's character is the working sum total of that individual's habits, and it is the high privilege of the teacher and the school to have much to do with forming the permanent habits of young folks.

There are two distinct periods in character building that the teacher must recognize if the most desirable results are to be obtained. The period of childhood from six to about twelve or thirteen and the period of youth from twelve or thirteen to about twenty years or later must be clearly distinguished. In childhood the instincts are individualistic, mostly for self. The appeal must be made only in so far as the child can see a personal benefit to be derived. The important thing in childhood is to have the child act out every moral idea and precept that is to be learned. A properly organized school furnishes very excellent situations for the child to do what is to be learned. With the child even more than with the youth the doing is the learning.

As soon as the child attains to the age of youth a very different manner of treatment must be accorded him. His social instincts now make it possible for him to become morally whatever his environment will produce in him. He now has a natural disposition to do and to live for other people. The teacher should not only recognize this new sense, but he must also recognize that the youth has a keen sense of the respect, reverence, and confidence that he is worthy of. He should be treated now as one whose opinions and behavior are of real worth to other people.

Some of the things that the child should learn are cleanliness, neatness, promptness, regularity and obedience. It is also well that the child should learn that it should pay for a benefit before it enjoys. Teach by incidents, illustrations, and stories well told to impress the idea and to secure the proper response in conduct. Show that kindness, honesty and truthfulness have their sure reward. Teach that industry, politeness, and respect for other people are desirable virtues and that idleness, rudeness and irreverence are vices to be avoided.

Teach the youth to see clearly the need and value of institutions, of government and of society. Use biography, history, and literature to show how civilization depends upon the co-operation of human beings of all classes and ranks of life. Give the youth large opportunity to act out his moral ideas and place responsibility upon him for which he is to account in a reasonable length of time. Keep in mind in dealing with both children and youth that prevention and not reformation is the school's function. The time to act on the part of the teacher is before the impulse and instinct have resulted in undesirable behavior.

THE DAILY PROGRAM.

The arranging of a daily program is always a difficult thing to do in a rural school of eight grades. And yet the success of the school depends largely on how well this program of daily work is arranged. The tendency among teachers is to provide for too many classes. Some teachers have been found trying to do the impossible task of teaching from 30 to 40 classes a day. There should not be more than 20 to 25.

How to avoid having too many classes is a problem that confronts every rural teacher of a one-room school of seven or eight grades. The problem can be solved only by alternation and correlation of studies.

Alternation is the systematic and regular union of two grades of pupils, both grades doing the work of one year in one class, while the other year's work is omitted. The next year the work omitted is taken up and the first year's work dropped. In this way each pupil does all the work of the course, but not all in the same order, and the number of classes is greatly diminished, the recitation periods lengthened and more efficient work done.

Alternation of classes may begin in the fifth and sixth grades. It is a very simple matter to teach the fifth grade work in geography to the fifth and sixth grade pupils in 1918-19 and in 1919-20 to teach the sixth grade geography to fifth and sixth grade pupils, and so on, alternating each succeeding year.

In a similar manner fifth grade reading and sixth grade history, fifth and sixth grade arithmetic and fifth and sixth grade language work may be alternated. In the seventh and eighth grades all the work may be alternated where it is not more economical to correlate with other subjects. Correlation is here used to mean the teaching of one subject, as spelling, while teaching composition.

TYPE DAILY PROGRAM OF RECITATION AND STUDY.

Suggestions.

1. Note that this program is but a **type** program. It is meant merely to be suggestive. The number of pupils and the number of grades will determine the daily program of **your** school.
2. Study this type daily program diligently until you have mastered the general plan of recitation and study periods. To do so will enable you to work out a daily program for your school.
3. Note that it is important for children to have regular times for studying the different subjects as well as for reciting.
4. Note what classes are alternated and correlated in this type program. It may be that you can extend these methods of saving time.

The home economics may be alternated with civics or with seventh and eighth grade arithmetic. In like manner the industrial arts may alternate with one or the other of these subjects. If the class in seventh and eighth grades is small, the teacher could supervise both the home economics and the industrial arts at the same period. When this can be done, civics and seventh and eighth grade arithmetic should alternate and a daily period of 20 minutes be used for home economics and industrial arts.

DAILY PROGRAM OF RECITATION AND STUDY.

Exercise & Recitation Begins	Time in minutes	RECITATION PROGRAM	PUPIL STUDY PROGRAM			
			Section D 1st and 2nd Grades	Section C 3d and 4th Grades	Section B 5th and 6th Grades	Section A 7th and 8th Grades *(Junior High—2 yrs.)
8:50	10	Opening Exercises	.....	.....	.....	.....
9:00	15	Literature or History, 7th and 8th grades	Reading, 1st, 2nd.	Nature Study, 3d, 4th.	Spelling, 5th, 6th.	.....
9:15	10	Reading, 1st grade	Reading, 2nd.	Nature Study, 3d, 4th.	Language, 5th, 6th.	Lit. or Hist., 7th, 8th.
9:25	12	Reading, 2nd grade	Reading, 1st.	Reading, 3d.	Language, 5th, 6th.	Lit. or Hist , 7th, 8th.
9:37	12	Reading, 3d grade	Reading, 1st, 2nd.	Reading or History, 4th.	Language, 5th, 6th.	Lit. or Hist., 7th, 8th.
9:49	13	Reading or History, 4th grade	Paper Cutting, 1st, 2nd.	Reading, 3d.	Lit. or Hist., 5th, 6th.	Agriculture, 7th, 8th.
10:02	14	Literature or History, 5th and 6th grades	Paper Cutting, 1st, 2nd.	Reading or History, 4th.	.....	Agriculture, 7th, 8th.
10:16	12	Writing, 1st, 2nd, 3d, 4th, 5th and 6th grades	.....	.....	.....	Agriculture, 7th, 8th.
10:28	10	Recess	.....	.....	.....	.....
10:38	15	Civics, 8th, or H. E. and Ind. Arts	Writing, 1st, 2nd	Writing, 3d, 4th.	Lit. or Hist., 5th, 6th.	Geog. or Phys., 7th
10:53	14	Geography or Physiology, 7th grade	Writing, 1st, 2nd.	Writing, 3d, 4th.	Lit. or Hist., 5th, 6th.	Civics, 8th, or H. E. and Ind. Arts.
11:07	14	Geography or Physiology, 5th and 6th grades	Drawing, 1st, 2nd.	Arithmetic, 3d, 4th.	.....	Geog. or Phys., 7th.
11:21	10	Nature Study, 1st and 2nd grades	.....	Arithmetic, 3d, 4th.	Geog. or Phys., 5th, 6th.	Civics, 8th, or H. E. and Ind. Arts.
11:31	14	Arithmetic, 3d and 4th grades	Nature Study, 1st, 2nd.	.....	Geog. or Phys., 5th, 6th.	Geog. or Phys., 7th
11:45	15	Composition or Grammar	Nature Study, 1st, 2nd.	Arithmetic, 3d, 4th.	Geog. or Phys., 5th, 6th.	.....
12:00	60	Noon	.....	.....	.....	.....
1:00	15	Arithmetic, 5th and 6th grades	Nature Study, 1st, 2nd.	Arithmetic, 3d, 4th.	.....	Comp. & Gram., 8th.
1:15	20	Arithmetic, 7th and 8th, or H. E. and Ind. Arts	Reading, 1st, 2nd.	Spelling, 3d, 4th.	Arithmetic, 5th, 6th.	.....
1:35	12	Reading, 1st grade	Reading, 2nd.	Spelling, 3d, 4th.	Arithmetic, 5th, 6th.	Arithmetic, 7th, 8th, or H. E. and Ind. Arts.
1:47	13	Reading, 2nd grade	Reading, 1st.	Spelling, 3d, 4th.	Arithmetic, 5th, 6th.	Arithmetic, 7th, 8th, or H. E. and Ind. Arts.
2:00	12	Spelling, 3d and 4th grades	Reading, 1st, 2nd.	.....	Arithmetic, 5th, 6th.	Atithmetic, 7th, 8th, or H. E. and Ind. Arts.
2:12	12	Drawing or music, all grades	.....	.....	.....	.....
2:24	10	Recess	.....	.....	.....	.....
2:34	15	Language, 4th and 5th grades	Drawing, 1st, 2nd.	Drawing or music, 3d.	Language, 6th.	Comp. or Gram., 8th.
2:49	15	Language, 6th and 7th grades	Drawing, 1st, 2nd.	Drawing or music, 3d & 4th	Language, 5th.	Comp. or Gram., 8th.
3:04	12	Drawing, 1st and 2nd grades	.....	Language, 3d and 4th.	Language, 5th, 6th.	Language, 7th.
3:16	12	Nature Study, 3d and 4th grades	Drawing, 1st, 2nd.	.....	Spelling, 5th, 6th.	Comp. or Gram., 8th.
3:28	12	Spelling, 5th and 6th grades	Paper Folding, 1st, 2nd.	Nature Study, 3d, 4th.	.....	Language, 7th.
3:40	20	Agriculture, 7th and 8th grades	Cut. and Fold., 1st, 2nd.	Pap. Cut. & Fold., 3d, 4th.	Draw. or Music, 5th, 6th.	.....

*This program is arranged to cover the six elementary grades and the first two years of the Junior High School. If the third year of Junior High School work is offered, it will be necessary to make some adjustments in the program.

SECTION II

Outline of Studies by Grades

Grades I-VI

OUTLINE OF STUDIES BY GRADES.

(Grades I-VI.)

First Grade.

READING—Text: Wheeler's Primer and First Reader.
Supplementary: Riverside Primer and First Reader.
Child's World Primer and First Reader.
Free and Treadwell's Primer and First Reader.
Elson's Primer and First Reader.
Art Literature Primer and First Reader.

LANGUAGE—No textbook in first grade. See Language and Composition, Section III.

WRITING—Text: Economy Method of Writing—Primary.

NATURE STUDY—No textbook. See Nature Study, Section III.

Second Grade.

READING—Text: Wheeler's Second Reader.
Supplementary: Riverside Second Reader.
Child's World Second Reader.
Free and Treadwell's Second Reader.
Elson's Second Reader.
Art-Literature Second Reader.

LANGUAGE—No textbook in second grade. See Language and Grammar, Section III.

WRITING—Text: Economy Method of Writing—Primary.

NATURE STUDY—No textbook. See Nature Study, Section III.

Third Grade.

READING—Text: Wheeler's Third Reader.
Supplementary: Riverside Third Reader.
Child's World Third Reader.
Free and Treadwell's Third Reader.
Elson's Third Reader.
Art-Literature Third Reader.

LANGUAGE—No textbook. See Language and Composition, Section III.

WRITING—Text: Economy Method of Writing—Intermediate.

SPELLING—Mastery of Words, Book I, pages 1-50.

ARITHMETIC—Text: Hamilton's Elementary Arithmetic, to page 107.

NATURE STUDY—No textbook. See Nature Study, Section III.

DRAWING—Text: Applied Arts Drawing Books.

MUSIC—Text: Congdon's or Dann's Music Readers.

Fourth Grade.

READING—Text: Wheeler's Fourth Reader.
Supplementary: Riverside Fourth Reader.
Child's World Fourth Reader.
Free and Treadwell's Fourth Reader.
Elson's Fourth Reader.
Art-Literature Fourth Reader.
LANGUAGE—Text: Kimball's Elementary English, Book I, Part I.
WRITING—Text: Economy Method of Writing—Intermediate.
SPELLING—Text: Mastery of Words, Book I, pages 51-90.
ARITHMETIC—Text: Hamilton's Elementary Arithmetic, to page 186.
NATURE STUDY AND GEOGRAPHY—No textbook first half-year. See Geography, Section III. Second half-year, text: Frye's First Course in Geography.
HISTORY—Text: Mace's Beginner's History, to page 202.
DRAWING—Text: Applied Arts Drawing Books.
MUSIC—Text: Dann's Music Course.

Fifth Grade.

LITERATURE—Text: Elson's Grammar School Reader, Book I and Wheeler's Fifth Reader.
Supplementary: Riverside Fifth Reader.
Child's World Fifth Reader.
Free and Treadwell's Fifth Reader.
Art-Literature Fifth Reader.
LANGUAGE—Text: Kimball's Elementary English, Book I, Part II.
WRITING—Text: Economy Method of Writing—Intermediate.
SPELLING—Text: Mastery of Words. Book I, pages 91-134.
ARITHMETIC—Text: Hamilton's Elementary Arithmetic, to page 288.
GEOGRAPHY—Text: First half-year, Frye's First Course in Geography. Second half-year, Frye's Higher Geography.
PHYSIOLOGY AND HYGIENE—Text: Ritchie-Caldwell Primer of Hygiene.
HISTORY—Text: Mace's Beginner's History, pages 202-389.
DRAWING—Text: Applied Arts Drawing Books.
MUSIC—Text Dann's Music Course.

Sixth Grade.

LITERATURE—Text: Elson's Grammar School Reader, Book II.
Supplementary: Riverside Sixth Reader.
LANGUAGE AND COMPOSITION—Text: Kimball's Elementary English, Book I, Part III.
WRITING—Text: Economy Method of Writing—Advanced.
SPELLING—Text: Mastery of Words, Book II, pages 1-41.
ARITHMETIC—Text: Hamilton's Practical Arithmetic, Part I.
GEOGRAPHY—Text: Frye's Higher Geography.
U. S. HISTORY—Text: Mace-Tanner's Old Europe and Young America.
PHYSIOLOGY AND HYGIENE—Text: Primer of Sanitation.
DRAWING—Text: Applied Arts Drawing Books.
MUSIC—Text: Dann's Music Course.

(See Junior High School Section for outline for seventh, eighth and ninth grades.)

SECTION III

Outline of Studies by Subjects

Grades I-VI

READING AND LITERATURE.

GENERAL DISCUSSION.

Reading is the most important study in the curriculum. It is the most important study because nearly all the other subjects depend upon it. Arithmetic, geography, history and other branches are studied in large part through books which the pupil must read. It is important, moreover, because reading is one of the most convenient means that children—particularly country children—have. after they leave school, of informing themselves and of amusing themselves, Reading, then, is the key that unlocks the great store house of knowledge and wisdom, art and culture.

One of the fundamental aims of the school, therefore, is to teach children to read well, which is to read with ease, pleasure, rapidity, and intelligence. In fact, aside from nature study, geography, agriculture, hygiene, and handicraft work, the curriculum may be said to exist, in part, for the purpose of teaching the child to read well in different subjects; and even the branches mentioned above are supplemented largely by reading. The teacher who can teach reading, in the broad sense in which it is here used, is a good teacher.

Method of Teaching Primary Reading.

It follows, then, that the method of teaching beginners to read is very important. Reading is the art of getting the meaning from print and writing. Any series of exercises that enables the child to learn this art is a method of teaching reading. But some series of exercises are better than others, easier, more economical of time and energy, and lead more directly into the art of getting ideas from print and script. What is the best method?

If we examine the way in which the child learns to get the meaning from what he **hears**, perhaps we shall see how we should set about training him to get the meaning from what he **sees** on the printed page. The infant sees a certain animal with four legs, a body of a certain shape, ears and eyes and tail. He can recognize the animal when he sees it; but as yet, he does not know any name to apply to it. But he wants to know. His mother tells him it is a **pig**, and she has him say the word until he can pronounce it. After some days of forgetting and being told, he succeeds in remembering that the sound **pig** is the sign of that animal. Now, the name given to that animal might have been **gip**, and the child would have been just as well satisfied. That is, **the name is an artificial sign of the idea.** No amount of observing the animal would have told him what its name is. That is something he has to learn as a separate bit of knowledge. Likewise he learns that **I** is a sound used by a person to represent himself when he is speaking and writing; that **see** is a sound used to stand for the act of looking, of using the eyes to observe. Finally if the sentence **I see a pig** is spoken, the child recognizes the sounds as representing ideas, and he learns how to express his own ideas by using these artificial sounds. In other words, he has learned that certain sounds stand for certain ideas, and he can articulate these sounds with the understanding that he is expressing ideas.

Observe five facts in this process: (1) The child has but learned the sound-signs of ideas that are already familiar to him. He has learned only how to **call** the things that he knew. He has mastered the artificial symbols of previously learned ideas; he has not acquired new ideas. (2) He has learned these names as wholes, not as parts; that is, he has not learned the sound **pig** by learning separately the three sounds in the word, or by learning the three letters **p-i-g**; he has learned the group of sounds as a unit. (3) He has learned that each object and idea has its sound-sign, and by practice has developed some power of learning new sound-signs. (4) He has learned to understand sounds by hearing them often, and has learned to utter the sounds by imitation and practice. (5) He takes pleasure in the process, because he feels the desirability of knowing the names for the different objects and ideas.

Learning to read is a similar process. Instead of learning **sound**-signs, the child is now to learn **print**-signs. The idea is now expressed by means of printed or written letters combined in words and sentences, instead of by means of spoken sounds, combined in words and sentences. The child has now a double task. He must not only learn the print-signs of ideas; he must identify the print-signs with the sound-signs. The **spoken** word **pig** is a sign of the animal; the **printed** word **pig** is another sign of the animal; while the **written** word **pig** is a variety of the printed sign. However, this double task is not very difficult, since the child has already learned the sound-name; and as soon as he learns the print-name for the same idea, he associates the two names.

Just here one of the fundamental mistakes of teaching reading is often made: the teacher thinks the child's sole task is to directly associate the two names. As a matter of fact, the child's first task is to associate the print-sign with the idea; after he has done that, he readily associates the two names. That is, the child should be taught to get ideas from the printed symbols, not merely to pronounce the corresponding spoken symbols. There is danger that the child in reading his lesson may only associate the print-sign with the sound-sign; may only **pronounce words,** instead of **getting ideas.**

Naturally, then, the teacher must make sure that the child understand and express the meaning; and in order to make sure, the teacher will have to perform a process similar to that of the mother when she taught the child the sound-names of ideas.

I. The teacher must teach the print-signs of those ideas that are already familiar to the child. After she has selected the ideas that are familiar to the children and found some reading material that deals with these ideas, she must call up the idea into the child's mind. She can do this in four ways.

First, she may have the objects themselves brought into the school room, or may take the child out to the objects, then have the child get reacquainted with them. If she wishes to teach the word **ball,** she can have the child handle the ball. When she is sure the child has the idea of **ball** in his mind, she shows him that the idea is represented by a certain sign; then she writes the word on the board and points it out in the primer. She repeats the word and the child repeats it after her. Other words she teaches in the same way, reviewing and repeating from time to time, just as the mother has done.

Second, if the idea is an action-idea, the teacher has the child perform the action, then teaches him the written and printed word that names the action. Thus she teaches **toss, catch, drop,** etc., by having the child perform the actions; then associates the action with the word written on the board, and pointed out in the chart or primer.

Third, if it is not convenient to have the object before the child, a picture is often used. This is one reason so many pictures are found in primers and first readers.

Fourth, often the teacher can bring the idea back into the child's mind by asking questions and starting conversations about the idea. This is not so good a way as the others, but it will serve.

The teacher may use any or all of these devices, but she must make sure that the children have the idea clearly in mind before the print-sign of the idea is presented; otherwise the child is likely to merely pronounce the word without associating it with the idea. The new words must always be taught in this way until the child has gained the power of learning new words for himself. And, whenever the reading lesson contains an unfamiliar idea, the teacher must first make the idea clear before she tries to teach the word.

II. The words should be taught as wholes, not as parts. The mother taught the sound-sign of **pig** by enunciating the entire combination of sounds, not by uttering the three sounds one by one. The teacher should teach the print-sign of ideas by presenting the entire combination of letters and sounds. In other words, neither a-b-c's nor phonics should be taught first. The whole words represents an idea, but no part of it represents an idea; therefore, it should not be taught by parts.

As soon as possible the child should be taught to read whole sentences. As a matter of fact, a word rarely expresses a complete idea, while a sentence does. And, as reading consists in getting ideas from print or writing, the child should be taught to read whole sentences as units of ideas. This he can do almost from the beginning. As new words are taught, they are combined with old words in sentences. For example: When the child has read the sentence, "I see a pig," he can read sentences like "I see a dog," "I see a cat," etc., as rapidly as he learns the new words. If the child acquires the habit of reading sentences as wholes, and is taught to study a sentence through before he begins to read aloud, he will not form the habit, so fatal to good reading, of reading in the following fashion: "I" (pause) "see" (pause) "a" (pause) "pig," laboriously putting word to word and failing to perceive and express the meaning of the sentence.

III. The pupil has learned that each idea has its print-sign, just as previously he has learned from his mother that each idea has its sound-sign; and he has developed some power of learning new print-signs. Now it is evident that this power must be increased, so that he may learn for himself print-signs of familiar ideas. How is he to increase this power?

First, by being shown that many words are alike in appearance and sound, and that he can learn a new word by its resemblance to a word he knows. Here comes in the teaching of phonics. The pupil knows the appearance and sound of certain words—the word **pig**, for example. Other words resemble this: **big, dig, fig, jig, wig**, etc. With a little instruction, the child learns that **ig** has a certain sound. In the same way he learns that other letters and combinations of letters have certain sounds, until finally he can discover the pronunciation of new words by their resemblance to ones already learned. This process of comparing a new word with old ones will come quite naturally and sometimes unconsciously; but the teacher must give a good deal of assistance. Very often a word is not phonetic; (that is, is not pronounced as it is spelled) but in most cases it has enough resemblance to a word already taught to help the child, with a little prompting, discover the pronunciation. Then, if the child has already formed the habit of associating the sight and sound of a word with the idea, he learns

to discover the idea represented by this new word. In general, the exercises in phonics need not be complex, and they should arise out of the reading lessons.

Second, by inferring the meaning of a new word. For instance, suppose the child sees this sentence: "The sun rises in the east and sets in the west." If he knows the meaning of all the words except "west," he may be able to infer the meaning of that word. Pictures assist materially in this process of inference. This inference—guessing, as we call it—goes on constantly and is one of the unconscious ways in which the child learns new print-signs.

IV. The teacher must read for the pupils, so that they may learn through imitation; and must drill them until they recognize the word readily wherever they see it. As to the drill, the best possible way is to supply plenty of supplementary reading material, in order that the child may learn the new words in fresh combinations, and that his interest may be kept intense. Many teachers err in assuming that a child will master a word by learning it once; as a matter of fact, dozens of repetitions are necessary to fix some words in his mind. Drill is an absolute essential in teaching primary reading, but it is best to make this drill as interesting as possible by varying the material used.

V. The teacher must do her best to make the pupil feel the desirability of learning to read. The child learns to recognize the words he **hears** and to **speak** these words because he feels that it is desirable. Usually the child feels a desire to learn to **read** also, but often his desire becomes weak and must be strengthened. There are several ways of doing this.

First, the teacher may read poems and read or tell interesting stories to the children, and emphasize the fact that if they learn to read they may find and enjoy such stories for themselves. The teacher must be such a good oral reader, that she will at once set a good model for imitation and start a longing in the pupils to read as well as she does. In the country school the child's desire to learn to read is often strengthened by hearing the older pupils read; and of course the fact that the child's parents and older brothers and sisters can read is another stimulus.

Second, the children should have supplementary readers, so that they may continually be getting acquainted with fresh, interesting material. A child soon loses interest if he is forced to read the same book over and over. A number of suitable books should be at the child's disposal in the school library.

Third, the teacher should introduce the lesson in such a way as to create in the children a desire to learn to read it. A few pointed, suggestive questions and remarks bearing on the coming lesson and hinting at what is to be found, will often stimulate a desire to become acquainted with it.

Fourth, the teacher should clear away the difficulties that are too great for the children to conquer. When the lesson is being assigned, she should lead the children to understand the unfamiliar ideas and the difficult words, and should plant within their minds the suggestions that will enable them to read with ease and pleasure.

Fifth, the teacher should be patient with the children, remembering that learning to read is a complex and difficult mental act; and that harshness, or even impatience, often crushes the desire to learn.

Summary of Method.

Let us summarize the method of teaching primary reading. (1) The pupils should be taught sentences and words as wholes. (2) The words taught should

represent familiar ideas, and the ideas should be brought up into the child's mind before the print-signs are presented. (3) The new words should be taught in groups, so that the child will learn the separate sounds as soon as possible; and the teacher must help him form the habit of discovering new words through their resemblance to the old. (4) Constant imitation and repetition are necessary to fix the words in the child's mind. (5) The teacher should strengthen the child's desire to learn to read and should make the process as pleasant and interesting as possible. (These are the essentials of the method. It may be said, however, that many variations of the method must be employed to fit different children.)

The Alphabet.

Incidentally the alphabet is easily learned. The teacher must remember that the **names** of the letters of the alphabet are decidedly different from the **sounds** of the letters, and they have to be taught as separate bits of information. Moreover, they have little or no connection with learning to read. Suppose the child learns the letters in the word **dog.** If he spells them out, he pronounces **deeogee,** which is certainly not the way to pronounce the word and gives little clue to the pronunciation. But after the child learns to read, he feels some curiosity about these different characters and willingly learns their names. Of course, he must know the alphabet names before he can spell orally; but this need not come before the second half of the first year. He need not know the letters in their order (a, b, c, d, etc.) until it is time for him to consult a dictionary; though, of course, he will usually learn them much sooner. The names and order of the letters are often taught by means of an alphabet song.

Reading Versus Literature.

The child should have a basal primer, a reader and at least two or three supplementary readers in the first grade; and in each of the grades above the first, he should have at least one supplementary reader. These readers will consist of two kinds of material: informational reading matter and literature. The difference is implied in the names. The informational reading matter consists of lessons designed to give the child knowledge of various kinds. The literature consists of poems, stories, etc., designed to arouse his emotions, and increase his enjoyment and his love of beauty. Of course, these two overlap: informational reading matter often has some of the qualities of literature, and literature often gives the child information and knowledge; but the two should be distinct in the teacher's mind, since they should be taught in different ways.

The literature should predominate all through the grades, since the pupil has access to much informational reading matter in his various textbooks; and after the fifth grade, reading ceases entirely as a study, in the remaining grades literature taking all the time previously given over to both literature and reading. A good many teachers think that literature is not as important as informational reading, since it does not teach the children facts. On the contrary, the arousing of good, pure, strong feelings is about the most important act a teacher can perform, since it is feelings that urge to good or evil and that make or mar these boys and girls who are the future citizens of the republic. Time spent upon the reading of good literature is time very well spent.

The informational reading matter is the material upon which the mechanics of reading should be based. The teacher should always introduce the lessons, of course; and, in the first year, she will have to assist the children with new words and unfamiliar ideas and to read aloud to furnish them a model. But, after that, since the reading is usually direct and straightforward prose and presents few mental difficulties, she should shift the burden of work upon the pupils. They do the reading—much of it aloud,—and the teacher takes advantage of the situation to teach proper position; the best way of holding the book, new words, spelling, pronunciation, enunciation, inflection, and quality of voice —in short, all that which we call the "mechanics" of reading.

In the teaching of literature in the lower grades, the teacher's work is more difficult. She must present the lessons in such a way as to arouse the pupils' interest, and to give them hints that will assist them to enjoy the selection; and in the conduct of the lesson, she must help the children get into the spirit of the selection, fill in the details of the scene, become intensely interested in the contents and saturated with the emotions. Then she must read aloud, naturally, pleasingly; and must have the children read after her. The purpose of the lesson in literature is not to teach the mechanics of reading, but to start healthy emotions and train the children in the appreciation of literature, so that they will like to read it after they leave school. The teacher should, therefore, not emphasize the mechanics of reading, but the spirit of the selection—though, of course, the work in literature will do much incidentally toward making the children better oral readers.

Oral Reading.

As the children advance in the grades the teacher should drop more and more into the background. Instead of reading first, she will now have the children read first, so that by the time they have finished the eighth grade they can read expressively and intelligently, without the teacher's assistance. The teacher should not make definite and binding rules for reading aloud; she should train the children to express themselves according to the natural spirit of the selection or passage, reading gayly or sadly, loudly or softly, rapidly or slowly, as the emotion suggests. She should not make rules as to how long to pause after a punctuation mark: that depends entirely upon the meaning and emphasis. The teacher should be extremely careful not to let poetry be read in a sing-song manner. Poetry is measured off into accented and unaccented syllables; and there is a tendency, when one gets into the strong swing of the meter, to keep this meter strictly regular. Sometimes this spoils the meaning and interferes with the musical qualities of the poetry. The children should be taught to read for the meaning and emotion and to disregard the metrical accent whenever it conflicts with the natural accent. Some kinds of selections are not thoroughly enjoyed until they are read aloud; humorous selections, or passages, sections in which the feeling runs high, passages of great beauty or fine phrasing, etc.

Silent Reading.

The teacher should train the children in silent reading, since most of their reading in later life will be silent. They should nearly always read silently before they read orally; and often the teacher should merely examine them as to the content of the informational reading matter without asking them to read aloud. (The literature, especially the poetry, should be read aloud; and in the upper

grades the children should take their books home and read aloud in preparation for the recitation.) There should be many suitable books in the library that the child may read silently in school or at home, and the teacher should encourage rapid but intelligent silent reading in these books. Often she should ask questions to make sure that the children have mastered the subject matter. The teacher should urge the children to read much, and should train them in the power to enjoy and appreciate books, to the end that they may form good reading habits which will remain fixed after the children leave school. Schoo s generally have ignored too much the fundamental importance of silent reading, both in school and out.

Dramatization.

The teacher and the children should occasionally dramatize a literature lesson —that is, make a play out of it. In a story in which there are several characters, let the children take the place of the different characters and play out the story, making up the conversation as they go along. They do not need a stage or costumes or elaborate stage furniture or objects; they can do very well with what they find in the school room. Occasionally they may give a public performance, with home-made costumes. Dramatizing is not difficult, and it is one of the best possible ways of realizing and appreciating a story. After the children have dramatized plays for some time, they will begin to see more clearly the dramatic qualities in what they read, and will read with more understanding and enjoyment. Not every kind of selection is suitable for dramatization; in general, stories with a great deal of action based on a very simple plot and not involving complex characters, are best. If the dramatization of a selection would not emphasize and supplement the literary values of the selection, it should not be dramatized.

Correlation.

The teacher should constantly correlate the reading and literature with the other branches. If, in the history class, for example, you are studying the Civil War period, it would be well to have the children study Whitman's poem, "My Captain," and Lincoln's Gettysburg Speech, and any other selections that fit in well with the history. If you do not happen to be at those particular lessons, turn to them anyway. It is of little importance whether or not you study the lessons in order, and it is of great importance that you study the lessons at the time when they will have the most significance.

The teacher should also teach reading in connection with the other studies. The pupils should be taught to read the arithmetic problems as intelligently as they read their reading lesson, for often they fail to solve the problems because they have not really read them. They should be taught to get the ideas out of their geography and history lessons in the same manner as they do out of their reading lessons.

The Library.

A library of at least a hundred well-selected books should be in the school library, and the teacher should encourage the children to read them in their leisure time, at school or home. Occasionally give the reading and literature period up to discussion of the books the children have been reading and have each pupil read aloud an interesting incident from the book he has been reading.

General Outline of Work.

In the first four years. Wheeler's Readers are used as basal readers. Supplementary readers are suggested under each grade. In the fifth and sixth years, Elson's Grammar School Literature Readers are used, with supplementary work as suggested in the following pages.

The mechanical elements in learning to read should be largely mastered by the end of the fourth year; that is, by the end of this time, the children should be able to master the subject matter of the lessons with ease and rapidity, and should be able to express the meaning intelligently and clearly. The reading process by this time should be largely unconscious; the child should not have to work consciously and laboriously at his reading lesson any more than he has to labor hard to do his speaking. Of course, if a child has not acquired skill in the mechanics by the end of the fourth grade, this work must be carried over into the fifth grade. Through the remaining years of the course the emphasis should be placed upon the literary phases of reading: development of imagination, stimulation of emotions and love of beauty, ability to fill in the details of the story; and the power to express the meaning and spirit of the selection naturally and pleasingly.

The following books deal with the teaching of reading. It would be well for the teacher to purchase at least two or three of these books: Arnold's "Reading and How to Teach It," (Silver, Burdett & Co., New York); Briggs and Coffman's "Reading in the Public Schools" (Row, Peterson & Co., Chicago); Klapper's "Teaching Children to Read," (D. Appleton & Co., Chicago); McMurry's "Special Method in Primary Reading" (D. C. Heath & Co., Boston); Clark's "How to Teach Reading in the Public School" (Scott, Foresman & Co., New York).

First Grade.

The best authorities agree that we have hitherto given too much time to primary reading, to the exclusion of other subjects more important to children of this age. The first year of school life should be given to the child's "own experiences," to use Prof. Huey's expression. Nature study, hand-work, story-telling, memorizing poetry, conversation about the child's home interests, and group games are the most important means of leading the child from home life to the larger, more organized life of the school. Reading in the first year should be subordinated to real life. For example, directions for hand-work and for playing games may be written on the blackboard instead of being given orally. In this way children learn that reading is a means of communicating thought, since they cannot do the desired thing unless they can read the directions. This habit of connecting action with reading should begin with the first school year.

Children should learn in the first year the printed forms of from three to five hundred words used in their daily speech. Their ears and vocal organs should be trained to recognize separate sounds recurring in familiar words, for example: d in "dog," "dark," "do," and "down," should be recognized as the same sound occurring in different words.

Begin reading in the first grade by reading to children, telling stories, and having them memorize some verses. All these activities prepare the way for reading. The first reading by children must be based on the children's own activities and interests. Begin with action words and the names of familiar objects in the room. In every case connect the written symbol with the action

or object it represents. The teacher calls Frank to her and whispers to him "run." She then says, "This tells the secret I told Frank. I said to him 'Run' ". And she writes the word on the board. Other devices for connecting the word with the action will suggest themselves to the teacher. To teach the names of objects she may write the name of "Sand," "Book," "Ball," "Window," etc., and pin the name on the object it represents, so that these words will be learned by association.

For the first week or two children's reading may well be limited to the interpretation of action words and names of objects. It is not necessary at this time for children to do much oral reading. Silent reading must precede oral in every case. Much bad reading is caused by insisting on oral reading from the first.

After children have learned to act in response to written symbols (for example, "Throw the ball," "Catch Tom," "Close the door") continue reading by using the rhymes children have memorized. Write on the board a rhyme that does not contain unusual words. Suppose this rhyme is selected:

"This little pig went to market,
This little pig staid at home,
This little pig had roast meat,
This little pig had none,
This little pig cried 'wee, wee, wee,
I can't find my way home.' "

Let the children say the rhyme over, counting their fingers for the pigs as they say it. Then tell one child to "read" the first line as you write it on the board. Call on another child to read the next line, and so on. The children are thus really reading, although they do not know the separate words. The approach to reading is easy and natural, not painful and artificial as it often is when words are built up from their sounds or letters.

Have words from the rhyme written on cards. Select only the words children will be apt to use again, as "this," "little," "pig," "went," "staid," "home," "cried," "me." Hold up the card for "this" and ask the children to find a word like it on the board. Ask what the word says. Do the same with the other cards. When a child hesitates, ask him to say over the rhyme until he comes to that word. He thus learns to rely on himself. Play a game to see who can find and call most words. Continue work of this kind with memorized rhymes until children have built up a word list they can recognize at sight. Be careful to vary the work enough to keep up interest in it. It is a mistake to stay long on one rhyme. Begin daily word drills in the form of games, as varied in character as possible. Have these drills at a different time from the reading lesson.

As the children learn words, combine these words with others to make sentences about familiar things. Write a sentence on the board and ask the children to read it. Let children whisper sentences to the teacher, who will then write "a secret" on the board for children to guess. There is a real motive for reading in this kind of work. For example, the teacher will say, "Who will tell something he saw on the way to school?" "Come and whisper it to me." Billy comes up and whispers, "I saw a horse." The teacher says, "See if you can tell what Billy saw." She writes the sentence on the board, and tells the children any new word that they have not had before—"horse," for instance. Now she asks other children to read the sentence and tell what Billy saw. Skill must be used to avoid too wide a range of words.

Blackboard work and word drills should be continued for some time—one or two months—before taking up a book. There is really a saving of time in postponing the use of a book. When the book is first used, the children should be taught how to hold it and to turn the pages. Do not allow them to hold the book closer than fifteen inches from the eyes, because a large amount of eye-strain is the result of close reading. From the beginning children should learn to read to the class, not exclusively to the teacher. They should share their thought with their audience, and to do this the book must not be held between the child and the audience.

Phonics: Rhymes make a good introduction to phonics. Through them children notice similar sounds in words, and learn to build up "families" of words. "Jill," "hill;" "down," "crown," may easily lead to other words of similar sound. The phonic work of the first year should be informal, and should consist of games. For example, pronounce "dog," "did," "Dot," and ask children to tell you other words that begin in the same way. Then write "d" on the board, giving the sound and asking children to give the sound also. (Be careful to give the correct sound—not "duh.") Take up all the initial consonants in this way. This phonic drill or play should come with the word-drill, not with the reading lesson. Little more than this should be attempted in phonics the first year. Indeed, many authorities think phonics should not be begun until later, because it holds the child to an analysis that taxes him too much. However, if the work is taken up as play rather than as uninteresting drill, this objection would be overcome.

Children should know the alphabet by the end of the year. Teach it by rhymes, pictures, and songs.

Complete Wheeler's Primer and First Reader and two or three of the following supplementary readers in this grade:

Riverside Primer and First Reader.
The Child's World Primer and First Reader.
Free and Treadwell's Primer and First Reader.
Elson's Primer and First Reader.
Art-Literature Primer and First Reader.

Second Grade.

Complete Wheeler's Second Reader during this year. In addition have the children read three or four Second Readers in the series listed under first grade work. Lucia's "Peter and Polly in Summer" (American Book Co., Cincinnati) is a series of excellent stories for this grade; it is especially good for rural schools. Perrault's "Tales of Mother Goose" (D. C. Heath & Co., New York) furnishes nursery tales for this and the third grade.

Do not feel obliged to teach the lessons in the order in which they come in the book, but rearrange them to suit circumstances. For example, teach the lesson on page 70 just after the pussy willows have appeared in the spring. Teach the lesson on page 91 at Christmas time. Teach the lesson on page 174 at a time when the children need to apply this lesson to their own life.

In general, it is well not to read in one book until it is finished, but to change from one book to another, selecting the lessons that will fit best with the seasons, the interests of the children, their other work, etc.

Emphasize this year work in phonics, acquiring of new words, ability to read rapidly, to read aloud intelligently and expressively. Care must be taken in

assigning lessons, so that the pupils may have their interest aroused in the subjects and may be put on the hunt for the ideas. For instance, in assigning the lesson on page 37 it would be well to begin by asking the children if they have ever seen their shadow. Ask them what makes the shadow, where it stays at night, why it is taller at some times than at others, and other questions that will touch on the details of the poem. Finally you tell the children that you are going to read to them a poem that tells what a child said about his shadow. Always take some time in assigning a lesson, and always prepare your assignment at least a day in advance, so that you may know just how you are going to introduce the selections.

In the recitation it is best not to ask the child to read one paragraph or one sentence, because perhaps that is not a natural stopping place. You had better study the lesson with the children and divide it up into sections, then ask each child to read a section.

Dramatize some of the lessons. The story on page 59 serves well for this work. Have the lesson studied first, then have the story retold orally. Now ask for five pupils to take the part of Red Riding Hood, her mother, grandmother, the wolf, the hunter. Have Red Riding Hood's mother send the little girl to her grandmother's—which is over in the corner of the room,—have the wolf meet her on the way, let the characters talk as they would in a real story. Play the whole story this way.

The teacher should tell and read many good stories to the children in this grade. This provides interest and entertainment, gives good material for language conversations, and inspires a desire to read.

Have the children commit many poems to memory. They should be asked to commit only those poems which they have studied and understand fairly well.

Third Grade.

Read Wheeler's Third Reader in this grade. Read also three or four Third Readers in the series listed under first grade work. Have these supplementary books bought near the beginning of the year, and change from one to the other, as you think best.

Continue phonic work. The common diacritical marks should be learned in connection with the reading and spelling.

Give persistent practice in reading aloud. Insist on distinct enunciation. Break up habits of reading too fast or too slow, too loud or too low. Do not let any reading pass that does not express the meaning. This implies that before a pupil is called upon to read aloud, the teacher must have satisfied himself, by questioning, that he understands what he is trying to express. If the pupil has formed the habit of reading only one word at a time, ask him to read each sentence through silently before he reads aloud. All unfamiliar and difficult ideas must be learned before the oral reading begins.

Very often the story in the lesson will not tell all the details, but will leave them to be inferred. This is especially true in poetry. The teacher must be sure that these details are understood.

Continue dramatization. Ask the children to reproduce orally some of the stories read, but do not have this done too frequently. (See Language and Composition, Third Grade, page 47.)

Teach the spelling of all the useful new words. It is not necessary to require the children to learn the spelling of all the proper nouns or the unusual words.

Keep in mind the difference between informational reading matter and literature. (See page 33.) The teacher should study each lesson before she assigns it, that she may know whether she is going to present it as literature or as reading matter.

Occasionally have a "sight" lesson. In this you introduce the subject as usual; but instead of assigning the subject for the next day, you take it up at once. The children read silently through the lesson as fast as possible. Then the teacher asks questions until she is sure the pupils understand the thought. They then read aloud. This plan encourages rapid reading, and reading for the main outline.

Have the children learn some poems by heart.

Fourth Grade.

Read Wheeler's Fourth Reader in this grade. Read also three or four Fourth Readers in the series listed under First Grade work. Farm Life Readers, Book Four (Silver, Burdett & Co., N. Y.,) is especially good for rural children. "Robinson Crusoe" (Houghton Mifflin Co., Boston, Mass.) is an excellent book to read in class.

Use care in assigning the reading lesson. Train in rapid silent reading. To do this have much sight-reading, limit the time for the preparation of lessons, and encourage much home reading of library books. Occasionally do not have the lesson read but merely retold. Let the children see that silent reading is very important, since it is more rapid than oral reading, and since they will be expected to read silently more than orally when they are out of school. Teach the children not to move their lips when they read silently.

The pupils should be thoroughly trained in dividing a lesson into sections. This is done by having the child state the substance of each paragraph before or after he reads, or make an outline of the story, or reproduce orally the essentials. In the lesson on page 74, for example, the story naturally divides itself into the following parts: First five paragraphs, the father's journey; next six paragraphs, the mirror; next two paragraphs, passage of time; next four paragraphs, death of the mother; remaining paragraphs, the daughter and the mirror. Every lesson has its outline, and the lessons are not well learned until the main points in the outline are discovered. Correlate this study with the making of outlines in the composition work. (See page 49.)

The pupils should be led to see that some lessons are to be read rapidly and for the story, while others are to be read slowly and for other points. For example, the poem on page 270 must first be read through for the complete thought, then must be re-examined more carefully, while the lesson on page 252 should be read quite rapidly.

Connect the lessons with the work in other branches. The lesson on page 257, for example, will go well with a history lesson. Be sure also that the selection fits in well with the season of the year. For instance, the poem on page 218 should be taught in late Autumn. Of course, the lesson may be chosen occasionally because it affords a contrast to the season or situation.

Continue memorizing. Many teachers have the idea that only those selections which contain moral truths or practical precepts should be committed to memory. As a matter of fact, beautiful poetry should be memorized, whether it has any direct moral lesson or not. The selection on page 283, with its animation and

optimism, and its appeal to the imagination, should be stored away in the mind as well as the selection on page 288, with its definite moral message.

Watch the children in their reading in all their textbooks. For instance, in the arithmetic lessons, have the examples read intelligently before the solution is attempted.

Dramatize a story every week or two. Be careful to select stories that lend themselves to dramatic effects.

It is well to read in the fourth grade, and in each grade beyond, one long story in the class each year. "Robinson Crusoe" is good for this grade. Assign two or three chapters at a time; then in the recitation have the story in these chapters told orally, and a few paragraphs read orally. Remember that the emphasis in the last part of this year and in all the work in reading to follow, should be placed upon literature rather than upon mechanical reading.

Fifth Grade.

Texts: Elson's Grammar School Reader, Book I, and Wheeler's Fifth Reader. Read also the Riverside Fifth Reader and Free and Treadwell's Fifth Reader. Farm Life Reader, Book V (Silver, Burdett & Co., New York) is especially good for country children.

Many of the selections in this book are difficult—so difficult that the teacher must be constantly on her guard lest her pupils miss the point of some splendid story or poem. You can usually tell whether the pupils understand by the way they read. If they have failed to perceive the meaning, you should question them until they do perceive it; then, have them read again.

When the children read poetry, insist that they bring out the thought, regardless of the rhythm. There is a natural tendency to make a pause at the end of a line. Sometimes this spoils the sense.

After the children have learned to appreciate a selection, it is well to call their attention to the author and the other selections of his that the children have read. It might be well occasionally to read all the selections of one author in succession. Refer the children to library books by the same authors.

Sixth Grade.

Complete "Elson's Grammar School Literature," Book Two. Read also the Riverside Sixth Reader. Some good long stories are: "Some Merry Adventures of Robin Hood" (Charles Scribner's Sons, New York); "Wood Folk at School" (Ginn & Co., New York); "Pinnocchio" (Ginn & Co., New York).

Elson's books are full of most excellent literature. The teacher should remember that literature does not exist primarily for the purpose of imparting information, but of arousing and guiding the emotions; and she should be dissatisfied with any literature lesson that does not accomplish this. Of course, there is often decided intellectual value in the selection, but that should come after the feelings have been stirred.

It is difficult to give brief, specific directions for teaching a literature lesson. (The teacher should show the children how to use the lesson helps in the readers. These are very valuable as they direct the children's attention to the important phases of the study. Every teacher should have the manual that goes with the readers.) The usual method of procedure is as follows:

First, assignment. In the assignment the teacher should ask questions designed to connect what the pupil already knows with that which the lesson has to give.

Second, preparation of the lesson by pupils. (a) The pupils should be trained to read silently through the whole selection rather rapidly in order to understand the principal thought, the predominant emotion, and the different sections. (b) Then they should silently study the selection more carefully sentence by sentence, trying to appreciate the meaning and force of the words, to see the pictures, and fill in details intentionally omitted by the author, to understand the figurative language, etc. If the words are familiar but evidently have unusual meanings to the pupil, try to infer the meaning from the context. If the words are entirely unfamiliar or the pupil cannot get the meaning from the study of the whole sentences, he should look up the word in the dictionary. (c) The pupil should then read aloud, trying to bring out the main thought, the significance of the details, and the spirit or mood of the selection, in a natural, intelligent and musical manner.

Third, recitation. (a) The teacher asks questions bearing on the main thought and the details, designed to show the pupils' knowledge and appreciation, to see if the pupil has filled in the outlines, understands the figurative language and unusual words, etc. She covers the same ground that the pupils have gone over in their preparation, though, of course, she will bring up points the children had not thought of, and will give suggestions that will lead to new ideas. (b) After a frank and free discussion, the poem should be read aloud. Sometimes the teacher reads first, sometimes the pupils; but the teacher should always read at least a part of the lesson. The oral reading should show appreciation and understanding, and should be natural and expressive. Special attention should be given to the oral reading. Do not encourage "elocutionary" reading; insist rather on simple, natural, appreciative and pleasing expression of the thoughts and emotions, and remember that the oral reading, if it is to be really expressive, must come after intelligent study; the children cannot express the meaning until they know the meaning to express.

Fourth, application. The selection should not be allowed to sink out of sight in the children's minds. It should be used in some way. (a) It may be memorized. (b) It may be assigned for composition or language work. (c) It may be used to illustrate or explain a lesson in some other subject. (d) It may be applied to some incident of the school or home life. (e) It may be referred to later in studying other literature.

A slightly different method must be followed in the teaching and studying of selections that are too long to be finished in one recitation. In this case, the teacher should assign a chapter or two at a time, in order to get through the selection as rapidly as possible. The preparation and recitation should be concerned with questions and discussions as to the story, what may be expected to happen next, the characters, and how they develop and react on each other, the connection and significance of incidents, the mystery and suspense, etc. Then when the selection is finished, it should be reviewed rapidly to get the entire story, the general theme and aim, the outline of the plot, the lesson, the general characteristics, the characters, etc. The pupils should be encouraged to read many library books, and to pursue the same plan in this reading that they do in class study.

If the children have kept up the dramatization, they should be able to give quite ambitious plays in the sixth grade. The girls can make the costumes

and the boys can provide the "properties"—that is, the objects needed in the play. Invite the parents in occasionally. Some work of this sort will help the children to study and appreciate the characters and action in all that they read.

Some magazines, such as the Youth's Companion (Perry Mason Co., Boston) and "Saint Nicholas" (The Century Co., New York) should be in the school room. Perhaps some subscriber in the neighborhood will lend them to the school, after they have been read. Encourage the children to read these silently, and occasionally have children read aloud interesting stories, or articles or poems.

LANGUAGE, COMPOSITION AND GRAMMAR.

GENERAL DISCUSSION.

Aims of the Course.

The aims of the course in language and composition are:

1. To train the child to examine subjects within his comprehension; to choose, reject, and organize his material on these subjects; to present in speech and writing his thoughts on these subjects in an orderly, pleasing, and effective manner.

2. To train the child in desirable language habits. Some of these habits are:

(a) The habit of speaking and writing with ease and pleasure and with clearness and correctness.

(b) The habit of using vigorous, idiomatic, expressive words arranged in free, natural sentences, which, in turn, are arranged in compact, unified paragraphs.

(c) The habit of taking care that his language be effective and of taking pride in his linguistic power.

(d) The habit of using mechanically the various formal elements of speaking and writing; such as correct pronunciation, distinct enunciation, spelling, paragraphing, punctuating, etc.

General Outline.*

It is obvious that since the child is using the language from the time he enters school, training in language must be started at once. During the first two years, however, the language work should not be given a special period on the daily program, but should be connected with the other work of the school, especially with reading and literature. Throughout the entire course, language should be taught in connection with the other work of the school. It is a serious mistake to give the pupils the impression that the language work is completed when the language period is over. Encourage free, vigorous conversation in connection with all the branches. Teach the children in all their school work to organize their thoughts and insist upon their using clear, definite, and correct words. This incidental language work is often the most educative, since it connects the language more closely with the child's life. In the third year a separate period should be given to language, though the pupils should not use a text. From the fourth year on the pupils use the text and have a definite period.

In the lower grades composition work is largely oral and should be combined with the regular language work. From the third grade on some of the language periods should be used for composition work.

No text in composition work should be used until the seventh grade. In this and the eighth grade the pupil should use the section on composition writing in part two of the second book of Kimball's "Elementary English."

*A definite outline is given in connection with the work of each school year.

Since the work of the first three years does not provide for a text book, the teacher must suggest the material and direct the work. In order to do this she should have two or three language books from which to get suggestions, ideas, plans, and exercises. These books will be valuable also for work above the third grade, since they will provide material for supplementary work. The following language books are suggested:

Live Language Lessons. Two books. University Publishing Co., Chicago. (Especially good for country and village teachers.)

Primary Language Lessons. One book. American Book Company, Cincinnati.

Studies in English, The Language Book. Row, Peterson & Co., Chicago.

Guide Books to English. Two books. Silver, Burdette and Company, New York.

The teacher should have and study two or three good books on the teaching of language and composition. Teaching in these subjects is so important and so difficult that the teacher needs all the assistance she can secure. The following are suggested:

Barnes—English in the Country Schools. Row, Peterson & Co., Chicago.

McMurry—Special Method in Language. Macmillan Co., New York.

Klapper—The Teaching of English. D. Appleton & Co., New York.

First Grade.

The language and composition work of this year should be almost entirely oral. All the writing that should be done is the copying of words and sentences, memorized selections, etc., marks of punctuation being copied without explanation. Spelling may be copied, and occasionally a sentence may be dictated by the teacher and written by the pupils. Do not expect any original composition this year.

The basis of this year's work should be informal conversation. Nature study, pictures, literature read, stories told by the teacher, the interests and experiences of daily school and home life, the seasons and holidays will furnish sufficient material. The teacher should try to get the children to talk freely, easily, naturally and correctly on the topics brought up.

Attention should be given to such sentences as: "John and **me** want to play." "**Us** boys will go." "There **is** two birds on the tree." "I **ain't got** my lesson." "He **has went.**" Correct these and similar blunders without explanation, but always give the correct form and have the child repeat it. Enlarge the child's vocabulary by suggesting a better word instead of the one he has used. Make these conversations informal and pleasant. Always base them on topics interesting to the children.

Some reproduction work can be done. The teacher tells or reads an interesting nursery tale, such as "The Three Bears." The children ask and answer questions about the story until it is well understood. Then they tell the story as effectively and dramatically as possible. Very little criticism of the language should be allowed, since the pupils should be encouraged to reproduce with confidence and pleasure. Mistakes in accuracy of reproduction and the most serious errors in language should be pointed out after the story has been retold.

Some of the simpler stories told or read should be dramatized. Some of the Mother Goose Jingles and some fables furnish good material.

Second Grade.

Oral English should be the basis of this year's work. Continue the conversations as in first year, based on literature, pictures, nature study, field excursions, games, activities, etc. Ask questions that involve several related sentences in the answer, such as, "How do you make a paw-paw whistle?" "How do you sweep a room?" "How do you play prisoner's base?" Train the children in sticking to the story, in proper position while standing, in speaking directly to the other children instead of the teacher, in distinct enunciation and easy conversational tone. Incidentally correct such errors as "I can write **good,**" "Mother **learned** me my lessons," "John **don't** know how to play," "I **taken** my slate home." Train in the use of "shall" and "will," "may" and "can," the common irregular verbs, etc., but without attempting to explain the finer points or the grammatical rules involved.

Watch closely the children's enunciation and pronunciation. Such words as "**git,**" "**ketch,**" "**probly**" need especial care, since the children often hear the incorrect forms more frequently than the right forms.

Try to enlarge the pupils' vocabulary. Teach them to distinguish between easy synonyms.

Continue oral reproduction of stories. Encourage the children to retell stories they have learned at home. Train the children to make up and tell simple stories based on pictures. Train them to tell the essentials of stories they read, leaving out details.

Dramatize, as in the first grade.

Study a number of fables with the children, and encourage them to make up simple fables of their own and tell them orally. Here is a fable told by a second grade pupil: "Once a rabbit was running away from some dogs and he wanted to get into a hole in some rocks. But some dirt had got into the hole. He got into another hole and got away from the dogs. Then he said, 'Tomorrow I will go and dig that dirt out, so I can get in the next time.' But the next day he forgot all about it. A few days after, the dogs got after him and were close behind him. He ran up to the hole and could not get in, and the dogs caught him before he could run into another hole. It served him right for being so careless."

The **written** work should be very simple in this grade. Copying, writing from easy dictation, writing of spelling lists and of memory selections is recommended. Some simple class exercises in original composing should be worked out. For example, the teacher asks the children to make up sentences about a cow. The pupils present such sentences as: "The cow gives milk;" "The cow has horns;" "The cow is red;" "The cow eats grass." The teacher writes these on the board one by one. Then she and the class rearrange the sentences in their natural order; finally the pupils copy the revised work, writing all the sentences in one paragraph.

Pupils should be taught the use of capital letters at beginning of sentences and lines of poetry; in the pronoun **I**; in proper nouns, days of week, names of months. The following marks of punctuation should be taught: period and question mark at ends of sentences; period after initials and common abbreviations; apostrophe in possessive case. Observe the use of these marks in the readers.

Have the children start a composition book in which they copy their finished work. Provide plenty of seat work in writing, basing it all on interesting subjects.

Third Grade.

A definite language period should now be assigned, but the incidental work in language should be continued. The teacher should outline her work for this class at least a week ahead, for she must direct the children orally and keep them working steadily at some definite aim.

The work should still be largely **oral.** Continue the reproduction of stories, poems, etc. Children should be asked to tell the other children about books they have read, sketching the story and giving brief character descriptions at the suggestion of the teacher.

So called "oral composition" work should be started in this grade. The teacher should assign easy subjects to the pupils such as: "How to plant corn;" "What I saw in the blacksmith's shop;" "A fishing trip"—subjects drawn, in general, from the actual experience of the pupils, and should assist the children in getting their thoughts together. The pupils prepare talks of two minutes or more on these topics, then speak to the class. Teacher and class criticize sympathetically on whether the subject was clearly presented, whether the points were arranged in the best order, whether the pupil spoke distinctly and used correct English.

Original stories based on pictures should be told. Occasionally part of the story may be told by the teacher and the pupils be asked to complete it. Pupils in this grade should be taught in their literature lesson to study the arrangement of incidents in such a way as to lead up to the important point, and should be encouraged to use this method in their own stories. Imaginative stories, such as fairy stories, Santa Claus stories, etc., stories in which the children impersonate some animal or object are good for this grade. Dramatization should be continued.

In all this oral work the teacher should try to build up the children's vocabulary and power to discriminate between words, and should break up slovenly habits of speech and enunciation. Care must be taken also that the children do not form the habit of using too many short, disconnected sentences, or long sentences the clauses of which are joined by "and." However, the teacher must take heed lest she destroy the pupils' naturalness and expressiveness and make them too conscious. Close watch should be kept on the children's language, and kindly, patient criticisms given whenever needed.

The **written** work of this year should be of two kinds: paragraphs and letters.

Toward the beginning of the year pupils should be taught to write brief paragraphs on simple topics, such as those assigned for oral compositions. The teacher should assign the topics and discuss them with the pupils, showing them definitely how to plan and arrange their material. Pupils should write their paragraphs in school with pencil and the next day should read their paragraphs. Teacher and class should discuss the clearness and correctness, the expressiveness and naturalness, the unity and coherence of the composition. As much time as possible should be spent in this discussion. Pupils should then copy the paragraphs with pen and ink in their permanent composition book. Continue this work throughout the year. The teacher must always assist in the preparation and discussion of the paragraphs, but should gradually put the work more and more upon the pupils. The topics should be stories and explanations, with an occasional description, and should always be drawn from the children's life or

reading. Study the paragraphs in reading and literature lessons, to see how authors construct paragraphs.

Letter writing should be studied this year. Have the children write letters of one paragraph to friends and relatives, telling them of happenings of current interest. Whenever possible, have these letters copied after discussion and mailed to the persons addressed. Insist on neatness, legibility, naturalness, etc. Occasionally read a model letter, that the children may learn to catch the spirit of the letter. (An excellent book for this purpose is "Letters to Children Written by Famous People." Hinds & Noble, New York. This book can be used in the third, fourth and fifth grades.)

The following letter is poor. It lacks unity because it takes up too many subjects; and it lacks coherence because the sentences are disconnected.

"Dear Grandpa: We played in the snow yesterday. Papa took me to town Saturday. We get lots of milk now. I like to go to school. Our telephone was broken down, but it is fixed up now. How is grandma? We are all well. This is my first letter.

Your loving,

SUSIE."

The following letter is much better:

"Dear Grandpa: We have been having good times this week. There was a big snow and we all played games like fox and geese, snow ball, and building snow men. Papa brought us to school yesterday on our sled. I tell you old Frank and Jerry had to pull hard up Creek Hill, for the snow was awful deep.

Don't you think this is a good letter for the first one?

Your grandson,

WILLIAM."

In learning to write paragraphs children must learn certain forms. They must learn: to indent the first line of the paragraph and close the paragraph wherever the last line happens to fall; to divide the word between syllables at the end of the line; to leave a wide margin at the left of the sheet. In writing letters the pupils should be taught the conventional usages; where to place the address of the writer and the date, how to address the correspondent, how and where to write the complimentary close and the signature, how to address the envelope.

In all the written work insist on correct spelling and correct grammatical usage. Teach punctuation: simple uses of the comma, the dash, hyphen, apostrophe, quotation marks. Teach simple abbreviations: "Mr.," "Mrs.," "Rev.," "W. Va.," "St.," "P. S." Teach simple contractions: "don't," "doesn't," "isn't," "wasn't," "hasn't," "can't," "it's," "I'm," etc.

Have some writing every day during this year. Occasionally assign written work in connection with nature study, arithmetic, literature; and insist that all written work be done neatly, accurately and legibly.

Fourth Grade.

This year for the first time the pupils use a text. Book One of Kimball's "Elementary English" is divided into three parts. The fourth grade work should complete Part One. Do not attempt to take the lessons in their order. So arrange them that the oral and the written work will be mingled in the proper proportions. "A little writing every day and not too much any day," is the ideal.

Pupils that have been trained according to the directions given for the first three years will find much of the text-book work of the fourth year a good review of facts already learned. Such pupils should be given much supplementary work. In fact, the teacher must consider the language book merely as a guide and must constantly bring into the language lesson work from other subjects, and from the interests and activities of the children. Language cannot be taught from any book; and the teacher that confines herself to the exercises in the book will fail to give adequate and interesting training in language.

The untrained teacher should not omit many of the lessons from the book, though she may omit many of the exercises. Even though the lessons seem disconnected with language work, they are excellent to start discussions and get the children to thinking and talking; and that is the basis of language work. The teacher should be very careful, however, to make the lessons alive with interest. She should never assign a lesson by saying merely: "Take the next lesson." She must introduce the topic in such a way that the pupils will be able to see the point in the lesson, to know what they are expected to do.

The lessons contain directions for the children; but they cannot follow these directions without assistance. The teacher must not confine herself to the directions and questions provided in the book; she must add suggestions of her own based on her knowledge of the pupils' experience. Do not let the lessons be merely book study. It is a good plan to assign the lessons without reference to the book. For example, in lesson 86 (page 61) the teacher can start the conversation and discussion about cows without asking the questions in the book.

Whether the suggestions are drawn from the book or not, the oral composition work of the third grade should be continued. The pupils may now make notes from which to speak. The topics should be practical, definite and vital. Have children repeat stories and make oral reports on the books read.

At least once a week the pupils should be required to write a composition of two or more paragraphs on some interesting topic. Most of these should be taken from life, such as: "A Trip to the Fair," "How to Make a Sled," "My Grandfather's Home." Some of them may be imaginative subjects, such as "The Autobiography of a Penny," "A Trip to the Moon," "What the School Bell Saw." If the teacher can secure inexpensive pictures, it is a good plan to have the children paste them in their composition books and write descriptions and stories about them.

During this year the children should be taught to construct simple outlines before they begin to write. The text provides excellent directions for outlining; see lessons 7, 9, 11, 32, etc. Each division of the outline should represent one paragraph in the composition. If the pupils do not make an outline before they begin to write, they will not plan the work logically and definitely, will leave out important points and bring in unimportant ones. In criticizing this work the teacher should be judicious and sympathetic, calling attention to the grossest errors, but at the same time encouraging the children to express themselves easily and freely. It is a good plan to criticize only one type of error in each group of compositions. Show the children how to criticize their own work.

Continue the work in the writing of single paragraphs. These have much of the educative value of the long composition and are more convenient as units of writing. In this grade begin to train the pupils in the use of the "topic sentence;" the sentence placed near the beginning of the paragraph, which tells or suggests the substance of the whole paragraph.

Pupils should be encouraged to consult the dictionary to look up the spelling, pronunciation and meaning of words. The teacher must show the children how to find words, to interpret the abbreviations, etc. It would be well to have the children purchase a small dictionary for their own use. Webster's Common School Dictionary (American Book Co., Cincinnati) is perhaps the best for grade work.

Insist on correct spelling in all written work. Review the rules of punctuation already given, and teach the simple rules for use of comma, semicolon, colon, exclamation mark, etc.

Take advantage of every opportunity in every lesson to teach spoken and written English. In the arithmetic lesson, for example, teach neatness of writing and arrangement, clearness and correctness of language, etc. In literature, study the use of words and help the pupils to add words to their speaking and writing vocabulary; study the construction of sentences and point out that John's sentences are too long and Henry's too short as compared with what they are reading; study the paragraphing to see how authors organize and unify their paragraphs and connect them with each other. Encourage informal arguments concerning lessons in literature, history, etc.

Fifth Grade.

During this grade part two of Book I should be completed.

Supplement the book study with much additional work. In assigning and studying the lessons in the book be sure to arouse thought and intelligent expression. (See suggestions in fourth grade.)

Continue oral and written compositions. Encourage the children to introduce fun and humor into their stories. Continue the work in writing single paragraphs with topic sentences, and longer compositions of three or more paragraphs, with outlines, written once a week. Have pupils criticize each others' language. Emphasize the simple grammatical rules in the book and show the pupils that they must follow these rules in speaking and writing.

Stress the letter, both the business letter and the social letter. The text contains helpful suggestions on this subject. These letters should be based upon real life, however, and not on the text-book lessons.

In this grade children may start keeping diaries. The teacher should help them for a week or two and show them what they should record each day, then should encourage them to continue the work. From time to time the teacher should ask about the diaries and give suggestions.

Occasionally the pupils should be asked to take notes on something the teacher reads, or on the talks given by visitors. The teacher and class should criticize these notes from the standpoint of fullness, clearness, accuracy, etc. Some days after the notes have been taken, let the pupils expand them and reproduce the original.

Simple and informal debating should now be introduced. The questions should arise naturally from the lessons; in agriculture, "Is this community best adapted to fruit raising or cattle raising?" in history "Did Washington do more for his country than Lincoln?" in literature, "Should the Pied Piper have taken the children out of Hamelin?" Questions arising in school may be debated. For example, "Should you snow-ball a boy that does not want to snow-ball?" Have these debates in connection with the recitations in the different subjects. Let each pupil choose one side or the other and set forth his opinions briefly and

forcibly. The teacher should preside and should insist on pupils sticking to the subject, showing courtesy to an opponent, and obeying parliamentary laws; and she should occasionally throw in a thought-producing question.

Continue the dictionary work. However, do not send the children to the dictionary unless it is necessary. In the literature lesson, for example, it is much better to discover the meaning of the word, whenever possible, by examining the whole sentence and seeing the significance of the word in the sentence. The teacher should not insist on the pupil's being able to give a dictionary definition; if they know what the word means, can give a synonym for it, or can use it in an intelligent sentence, they know the word well enough.

Encourage pupils to enlarge and enrich their speaking and writing vocabularies by observing and using good words they meet in their reading. But the teacher must be sensible in this matter. She should not urge the pupils to acquire bookish, unusual words, but colloquial, suggestive, usable words. To preserve the child's naturalness and vigor and at the same time refine, correct, and enrich his language is difficult; but the teacher must undertake no less a task.

All the children's written compositions should be read aloud in class. No one gets any pleasure in writing if he knows it is not going to be read or heard by anyone else.

Sixth Grade.

Complete Part Three of the first book in this year. Rearrange the exercises and lessons whenever necessary, so that the oral and written work alternate and combine well. Spend some time in assigning each lesson, in order that the pupils may save some time in studying.

Continue the work in letters, paragraph-writing, and oral and written compositions. In all written work, except friendly letters, outlines should be required. These outlines should not be very complex but they should be definite. It is a good plan to assign and discuss the topic one day, have the outline written and discussed the next day, and the composition written the following day. Insist that the pupils plan all written work carefully before beginning to write. They should know the number of paragraphs, the order in which they are to come, and the subject matter of each, before they start writing. After they have prepared the outline, encourage them to write or talk freely and naturally. Whenever absolutely necessary, they may change the outline as they are writing their composition, but they should always be called upon to give the reason for the change. Make much of the oral composition.

Continue the writing of letters. Arrange a correspondence between the pupils of your school and those of a school in some other part of the state. Have imaginary letters written by travelers in foreign lands, or by famous persons in history to their families, or by a dog to its absent master. In case the school is ordering any books or supplies, or any pupil has occasion to write a business letter, make it a class exercise and send the best letter written.

In this grade the teacher should begin to criticize the written work more closely. Mistakes should be indicated by symbols ("Sp" for misspelled word; "Cap" for using a small letter instead of a capital letter; "Sl" for using a capital letter instead of a small letter, etc.) Criticisms may be made in red ink. In order to make sure that the pupils study the criticisms, use the following plan: have the children write on only one side of the page in their composition books, leaving a wide margin at the left of the page. Make your criticisms in this margin. Then when you hand the book back, have the children write the correct forms just

opposite the incorrect forms, not rewriting the entire sentences, but only that part involved in the error. It is not a good plan to have the children rewrite the whole composition, except in case of extreme carelessness.

During this year the children should write brief newspaper articles on the school activities. If, for example, you have had an entertainment in the room or school, conduct afterwards a class exercise in which the teacher and the class discuss what should be written, number of paragraphs, etc.; then have each child write an account of the entertainment. Let them vote on the best article as another class exercise, indicating its good points and suggesting improvements. Then have the writer copy his article and send it to a local or county newspaper.

Continue work in dramatization. Study a story or poem in the literature class; then have the children write out the dramatization, supplying stage directions and conversation. Then have the story acted according to the best dramatization.

Continue the work in debating. Assign questions that lie within the experience and reading of the children. Have the pupils make outlines of what they are going to say and speak from these outlines. Do this in connection with the subject out of which the question arises.

Encourage the children to take pride in their spoken and written language. Encourage them to criticize each other sympathetically and with the desire to help improve each other. **Teach language all the time.**

WRITING.

But little attention is given to the subject of writing in our schools and yet it is a subject to which the teacher can and should devote more time than is generally allotted to it.

We pride ourselves on being able to communicate our ideas to our fellowmen in a clear, forceful and convincing language, without stopping to think how painful it must be to them to get our thoughts if, perchance, they have been conveyed through the medium of the pen. Teachers, in presenting this subject to your pupils, be sincere and conscientious, and let your aim be to teach your pupils to write a legible, uniform and beautiful handwriting. Let your motto be, "Better today than yesterday."

Essentials.

The essentials POSITION, MOVEMENT, SPEED, and FORM must be taught, and in doing so, the teacher will have to exercise a great deal of patience, for no two pupils will progress with the same degree of rapidity.

(Note)—Slight variations to suit individuals are allowable, but the following are accepted as general standards.

Position: See that the desks are properly adjusted to the pupils' needs. In teaching position, always consider health and efficiency. An erect, healthful position in writing usually leads to efficient work. All through the year pupils should be trained in the essentials of good position; such training is far more important than immediately apparent results. One of the aims of each lesson in which the pupils do any writing should be the establishing of a good position habit. Right kind of training will lead to a good quality of work.

The body should face the desk in a square front position and inclined slightly forward from the hips, allowing a space of about two inches between the body and the desk. The distance of the eyes from the paper should be twelve or more inches, according to the size of the pupil. The feet should be placed apart and squarely on the floor.

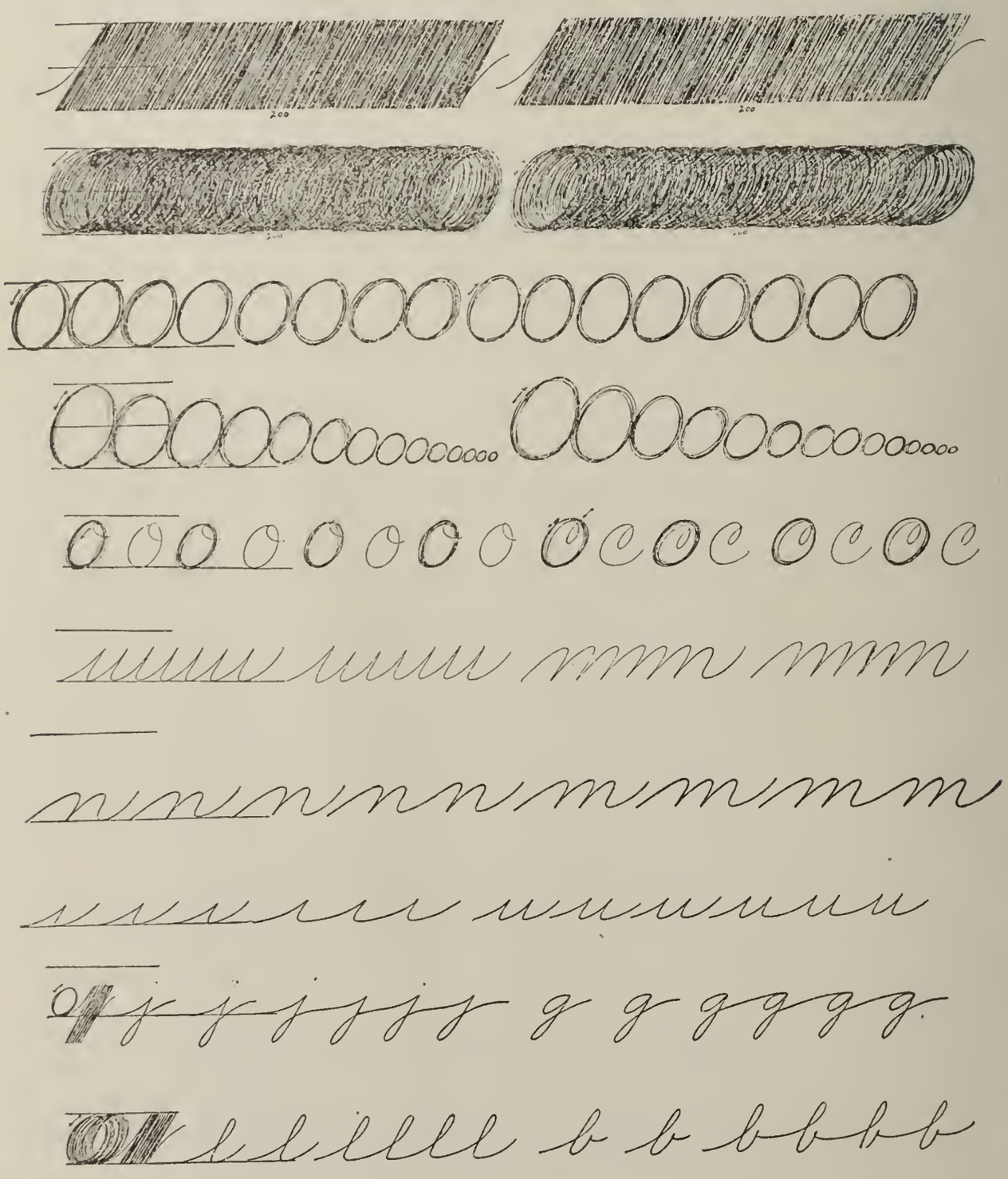
Place both arms upon the desk, forming approximately right angles at the elbows. Keep both elbows near the front of the desk. The left hand, placed just above the writing line, holds and adjusts the paper. The right arm rests only on its own weight on the muscles in front of the elbow. The only other point of contact of the right arm with the desk should be the nails of the third and fourth fingers bent under the hand, forming the "gliding rest."

The pen or pencil should be held loosely between the thumb, forefinger, and second finger. The distance between the end of the forefinger and point of pen should be about one inch. The other end of the pen should point to the right shoulder.

The paper should be placed so that it will be easy to swing the arm to the right or left along the writing line. The rule is sometimes given to place it so that a line drawn from the upper right hand corner to the lower left hand corner would point toward the center of the body. It should be moved by the left hand according to convenience. Care must be taken that the paper be moved upward and not the right hand downward as the writing progresses down the page.

Movement: The muscular movement is the one by the use of which the essentials of practical penmanship can be acquired,—legibility, rapidity, ease and endurance. This movement is produced by the large muscles of the upper arm and shoulder, causing the arm to roll on the muscular cushion of the forearm located just in front of the elbow where it rests upon the desk with the nails of the third and fourth fingers gliding on the paper. The nails of these fingers should describe every movement that the pen makes. The pen, held motionless in the hand, should be governed by the arm with the forearm, hand and fingers acting together as a unit. Insist on correct movement in all written work.

Movement Exercises.



Practice the "push and pull" movement, direct compact or spiral oval, the direct retracing oval. Two space practice, then the one space. Practice m, u, l, j and o exercises—m and n, l and inverted l—first one space and. as freedom and control are gained, reduce in size till the m, n, u and o are reduced to half space.

The teacher should make use of any other movement exercises which may be deemed helpful in development of good movement.

Note: For further movement drill see Manual prepared by Laurel Book Company, Chicago. (Free for the asking.)

Speed: Speed is of much importance in developing light and uniform motion. Counting serves to restrain a tendency on the part of some to scribble, and is a spur to habitually slow pupils. In the principal movement drills in the upper grade there should be from 150 to 180 down strokes per minute. Such drills are for the purpose of establishing the rate of speed to be used in writing. However, in letter and word formation, the speed is slower on account of stops and changes in motion. In general, it may be stated that movement work should be just rapid enough for real use in writing.

Count for each down or right connecting stroke in the movement exercises given above. Example, down. This word has nine counts. The rate of speed in this case should be about 20 words per minute.

Form: As correct habits of position and movement are being formed and a fair degree of speed being secured the emphasis should be shifted gradually to correct letter and word formation. Pupils should compare, frequently, their own work with their copies.

The slant should be natural and individual. Most pupils are largely imitative and for this reason they will imitate the slant shown in the copies, but within reasonable limits each one should be allowed to develop his own slant, provided it is uniform in all his writing.

Practice: We learn to do things by doing them. Without regular practice we cannot hope to attain to any degree of perfection. The movement drills are means to an end, not the end. Begin applying movement to writing of letters and words in the first grade. Aimless practice accomplishes nothing. The writing lesson should be planned the same as any other lesson. A good plan is to practice the exercise first, then the letter, then the letter in the word, then the word in the sentence—giving about the same length of time to each. Encourage muscular movement in all written work and accept nothing but the pupil's best. Exhibit pages of movement drill and written work.

Materials for All Grades.

It is essential that all materials be selected with care, as good work cannot be done with poor tools. Economy in the use of materials care in regard to details, neatness and a pleasing orderly arrangement of work, should become habits with each individual member of the class.

Paper: Large sheets, preferably unruled, are best for beginners. During the latter half of the first or the beginning of the second year, ruled paper may be introduced. Paper for the first and second years need not be of a good quality, but when pen and ink are introduced in third grade and above, a standard quality paper should be used.

Writing Book: The state adopted series prepared by the Laurel Book Company, Chicago, Ill.

Pencils and Pens: Large, soft pencils and wax crayons should be used in first and second grades. For the third and succeeding grades a standard size may be used.

The pens, at least for the third and fourth grades, should be fitted with rather large, smooth round points. In the following grades a finer point is preferable. The pen holder should be made of wood, cork or rubber, but never of metal, and should be about 3-8 of an inch in diameter at the bottom.

Work should be done frequently with crayon at the blackboard for the development of movement.

Teaching Points.

1. Insist on neatness and orderly arrangement in all written work. No lesson should be given until the desks are clear and order prevails.
2. There should be a daily writing lesson of not less than ten minutes. No writing lesson should immediately follow an intermission.
3. At the beginning of the year, a specimen of each pupil's writing, including the name, date and time required should be taken. At frequent intervals throughout the year others should be selected to show improvement. This method of grading will furnish the child an effective stimulus and motive.

See "Ayres" scale for grading hand writing. A copy may be secured from the Russell Sage Foundation, 130 E. 2nd St., New York City, for 5 cents. See also scale worked out by Dr. Thorndike, a copy of which is found in "Teaching the Common Branches," by Charters.

4. No shading should be allowed in any exercise.
5. General instruction as a whole is all right. But however well this is done, it is much more effective to give individual attention. Criticize judiciously and commend whenever possible. Pupils will usually do as poorly as the teacher will permit and as well as he demands.
6. There must be muscular relaxation in order to have good movement. This may be secured in various ways. One method is by dropping the arms by the sides of the seats and shaking them vigorously for an instant. Another way is by executing rapidly some easy exercise while looking away at some object on a level with the eyes. This takes the mind away from the arm, thus securing a greater relaxation of muscle. Again, have the class stand, raise arms over head, relax fingers, wrists, elbows, and shoulders. Repeat, arms raised even with shoulders, drop as if lifeless to side. Repeat, relax fingers and wrists with arms at sides. Counting from one to ten in the above exercises helps the work.
7. Plan each lesson with the special needs of the class in mind. The most effective way to show how a drill is made is by making it in the presence of the pupils. One sometimes teaches most effectively when he is learning along with the pupils.
8. Lead pupils to see their faults by questioning them on specific points, and by comparing their work with the models shown. Do not fail to commend for work well done.

First Grade.

The first essential in this grade is to train the pupils to sit and write in hygienic postures with particular reference to body, arms and head. Teachers should exercise much care and patience in seeing that this is carried out.

Place much emphasis upon movement. Writing is controlled movement. Hence the necessity of stressing this fundamental. It is very advisable at first to give movement exercises in the air.

Much of the first year's work should be done at the blackboard. The teacher should make the movement drills and have the children watch. Then at the word of command have the children write. The work should be quick and enthusiastic. From the beginning, teach position, light touch, neatness and arrangement. No writing lesson should be carried to the point of fatigue. There should be no assigned "busy work" writing in the primary grades.

It is of the utmost importance that all writing in the first grade be carefully supervised. A very grave mistake is made when the child is allowed to form wrong habits which must be corrected later. And such will be formed except under the most careful supervision.

First grade children at the close of the year should know the proper position, have well formed notions of movement and paper holding, and should be able to write the alphabet of small letters in order or from dictation, their own names, town and school, figures to 100, a few simple sentences, and capitals necessary for the language work required of them.

It is much better that children should learn letters in comparative heights than between lines.

Second Grade.

The first few weeks of school the lessons of this grade should be at the board only, after which practice should be done on paper, with frequent drills on the board throughout the year on letters, figures, words, pupil's names, and easy sentences.

Place emphasis on correct position, freedom, and proper movement. Endeavor to establish good form. Carefully supervise all work. Don't accept careless or slovenly work. Drill in word and sentence writing. Look for good points and keep specimens posted.

At the end of the year the pupil should occupy proper position at desk or board, have well fixed habits of pencil and paper holding, a fair degree of uniformity in work, good movement, and should show decided improvement in general on first year's work in forming letters, words and in sentence writing.

Third Grade.

Continue to emphasize correct position and correct movement. Give much instruction in movement for making letters and figures. Continue word and sentence writing. Work for the development of speed. Make a detail study of the letters and teach difficult letters and combination of small letters, such as x, c, k, z, or ch, wr and os. Give particular attention to form.

Introduce and teach proper use of pen and ink. Dwell on the essentials of position and movement as though they had never been explained before—keep specimens posted.

At the end of the year's work the pupil should have acquired the following:

(a) A very fair use of muscular movement.
(b) Ability to compare letter forms and make difficult combinations.
(c) A more definite idea as to form and size of script.
(d) A fair rate of speed.

(e) Good, well formed habits of penmanship.
(f) Ability to write all capitals.

Fourth Grade

Emphasize correct position, correct drill movements, and application of all fundamental principles. Give instruction in controlled letter drills. See that all work of the preceding grades is strengthened. Systematic drills to increase speed should be given for two or three minutes at the close of each writing lesson. First drills for speed should be writing an easy letter or word over and over, increasing speed without sacrificing form.

Counting is a means of giving uniformity to movement and keeps the class working harmoniously. Such work directed by a live teacher always creates enthusiasm on the part of the class. In giving counts use such expressions as **"Heads up," "Feet flat," "Light lines," "Wrists free," "Pen loose,"** etc. This will impress upon the pupils, habits to be acquired.

Occasional board practice should be done to correct individual faults and secure better desk practice.

Fifth and Sixth Grades.

In addition to the work to be emphasized in grade IV, place much emphasis on controlled letters and word drills, uniformity of slant, height, and spacing in all writing. Apply standard tests or measuring scales frequently. Give various drills for improving and controlling movement. Drill on letters of difficult combination. Make all written work, in so far as it is possible, serve as lessons in penmanship. Give spelling lessons as writing lessons. See that all work is carefully done, and keep specimens of this work posted.

MEASURING SCALE FOR ABILITY IN SPELLING

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
SECOND GRADE																									
99	98	96	94	92	88	84	79	73	66	58	50	SECOND GRADE													
	THIRD GRADE																								
	100	99	98	96	94	92	88	84	79	73	66	58	50	THIRD GRADE											
			FOURTH GRADE																						
		100	99	98	96	94	92	88	84	79	73	66	58	50	FOURTH GRADE										
				FIFTH GRADE																					
			100	99	98	96	94	92	88	84	79	73	66	58	50	FIFTH GRADE									
					SIXTH GRADE																				
				100	99	98	96	94	92	88	84	79	73	66	58	50	SIXTH GRADE								
						SEVENTH GRADE																			
					100	99	98	96	94	92	88	84	79	73	66	58	50	SEVENTH GRADE							
							EIGHTH GRADE																		
					100	99	98	96	94	92	88	84	79	73	66	58	50	EIGHTH GRADE							
me do	end go at on	a it is she can see run	the in so no now man ten bed top	he you will we an my up just not us am good little auto old had red	of be but this all your out time may into him today look did like six boy book	by have are had over must make school street say come hand ring live Kill late let big mother three find cold hot hat child ice play sea	day cat at lot box belong door yes low soft stand yard bring tell five ball law ask just way get home much call long live then house year te I us send one has some if how her them other baby well about men for ran was that his led lay	nine face miss ride tree sick got north white spent foot blow block spring river plant cut song winter stone rice lake page nice end fall feet went back away paper put each soon came Sunday show Monday yet find give new letter take Mr. after thing what than its very or thank dear west sold told best four far gave alike add	seven forget happy noon think sister coast card south deep inside blue post town stay grand outside dark band game boat rest east son help hard race cover fire race gold read fine cannot May line left ship train saw pay large near down why bill want girl part still place report never found side kind life here car word every under most made said work our more when from wind print air fill along feet name room hope same glad with nine	became brother rain keep start mail eye glass party upon two they would any could should city only where week first sent mile seem even without afternoon Friday hour wife state July head story open short lady reach better water round cost price become class horse care try move delay pound behind around burn camp bear clear clean spell poor finish hurt maybe across tonight tenth sir these club seen felt full fail set stamp light coming cent night pass shut easy	catch black warm unless clothing began able gone suit track watch dash fell fight buy stop walk grant soap news small war summer above express turn lesson half father anything table high talk June rights date road March next indeed four herself power wish because world country meet another trip list people ever held church once own before know were dead leave early clock flower nothing ground lead such many morning however mind shall alone order third push point within done body	trust extra dress beside teach happen begun collect file provide sight stood fix born goes hold drill army pretty stole income bought paid enter railroad unable ticket account driven real recover mountain steamer speak past might begin contract deal almost brought less everent off true took again inform both heart month children build understand follow charge says member case while also return those office great Miss who died change wire few please picture money ready omit anyway	except aunt capture wrote else bridge offer suffer built center front rule carry chain death learn wonder tire pair check prove heard inspect itself always something write expect need thus woman young fair dollar evening plan broke feel sure least sorry press God teacher November subject April history cause study himself matter use thought person nor January mean vote court copy set been yesterday among question doctor hear size December dozen there tax number October reason fifth	eight afraid uncle rather comfort elect aboard jail shed retire refuse district restrain royal objection pleasure navy fourth population proper judge weather worth contain figure sudden forty instead throw personal everything rate chief perfect second slide farther duty intend company quite none knew remain direct appear liberty enough fact board September station attend between public friend during through police until madam truly whole address requeat raise August Tuesday struck getting don't Thursday	spend enjoy awful usual complaint auto vacation beautiful flight travel rapid repair trouble entrance importance carried loss fortune empire mayor wait beg degree prison engine visit guest department obtain family favor Mrs. husband amount human view election clerk though o'clock support does regard escape since which length destroy newspaper daughter answer reply oblige sail cities known several desire nearly	sometimes declare engage final terrible surprise period addition employ property select connection firm region convict private command debate crowd factory publish represent term section relative progress entire president measure famous serve estate remember either effort important due include running allow position field ledge claim primary result Saturday appoint information whom arrest themselves special women present action justice gentleman enclose await suppose wonderful direction forward although prompt attempt whose statement perhaps their imprison written arrange	forenoon lose combination avenue neighbor weigh wear entertain salary visitor publication machine toward success drown adopt secure honor promise wreck prepare vessel busy prefer illustrate different object provision according already attention education director purpose common diamond together convention increase manner feature article service injure effect distribute general tomorrow consider against complete search treasure popular Christmas interest	often stopped auction theater improvement century total vacation arrive supply assist difference examination particular affair course neither local marriage further serious doubt condition government opinion believe system possible piece certain witness investigate therefore too pleasant	guess circular argument volume organize summon official victim estimate accident invitation accept possible concern associate automobile various decide entitle political national recent business relief minute ought absence conference Wednesday really celebration folks	meant carpet whether distinguish consideration colonies secure relief occupy probably foreign expense responsible beginning application difficulty scene finally develop circumstance issue material suggest acre senate receive respectfully agreement unfortunate majority elaborate citizen necessary divide	principal testimony discussion arrangement reference evidence experience session secretary association career height	organization emergency appreciate sincerely athletic extreme practical proceed carefully character separate February	immediate convenient receipt preliminary disappoint especially annual committee	decision principle	judgment recommend allege

RUSSELL SAGE FOUNDATION, NEW YORK CITY

DIVISION OF EDUCATION

LEONARD P. AYRES, DIRECTOR

The data of this scale are computed from an aggregate of 1,400,000 spellings by 70,000 children in 84 cities throughout the country. The words are 1,000 in number and the list is the product of combining different studies with the object of identifying the 1,000 commonest words in English writing. Copies of this scale may be obtained for five cents apiece. Copies of the monograph describing the investigations which produced it may be obtained for 30 cents each. Address the Russell Sage Foundation, Division of Education, 130 East 22d Street, New York City.

SPELLING.

General Discussion.

The principal aims of teaching spelling are to train the children to spell correctly the words they use in their writing in school, to impress upon them the desirability of spelling correctly the words they write, and before they leave school to equip them with the skill and inspire them with the wish to learn the spelling of new words they are called upon to spell in writing after they have left school.

These aims necessitate three kinds of work, which are distinct in theory, though not inseparable in practice:

1. Training pupils to spell, automatically, mechanically, without stopping to think, all the words in common use in writing.
2. Emphasizing correct spelling, making it important, pointing out frequently how necessary correct spelling is in real life, how severely a person is criticized for misspelling.
3. Teaching a few important spelling rules and training children in the art of consulting the dictionary.

These three kinds of work are here considered, one at a time.

I. Learning to Spell the Most Common Words.

What are the most common words? By an accurate and elaborate calculation, the Russell Sage Foundation of New York City, found the one thousand words most frequently used. The Foundation then listed these one thousand words by grades, so that teachers may test their pupils' spelling ability. (See insert.)

Before the children leave the elementary school, they should **all**, if possible, be able to make **one hundred percent** in spelling these words. And their ability to spell should be further measured by the correct spelling of these words in their writing: if they spell a word right in the formal spelling lesson, but spell it wrong in their language or composition work, they have not yet mastered the word.

Other lists of words most frequently used are found in "The Child and His Spelling" by Cook and O'Shea, published by the Bobbs-Merrill Company, Indianapolis, Indiana.

It is almost a certainty that the vast majority of the children will need to spell these words in writing. In addition to these one thousand words, there are, perhaps, about five hundred other words used frequently enough by the majority of the children to justify their being taught and emphasized. Certain proper names (family names and "given" names, counties, cities and towns, etc.). often used in writing in any community should be taught in that community. In country schools a number of words peculiar to rural life should be taught; in industrial centers the words used in industries should be taught. Moreover, the observant teacher will discover, by studying the children's written work, that a number of children use (and perhaps misspell) certain words not given in the list above or even in the spelling books. All such words should be taught in class.

Every teacher knows that **nearly** all children will spell **most words** correctly. As soon as it becomes evident, by testing and experience, what these words are, they should be eliminated as a part of class work; and as words that are difficult for most pupils are discovered, special emphasis should be thrown on these words. If only one or two children misspell certain words, the teacher should give these children individual attention until they have mastered the words.

Undoubtedly, most teachers attempt to teach too many words. The average person will not use more than some fifteen hundred words in his writing, and of those words he will spell perhaps fourteen hundred correctly without any special teaching. It is impossible to attain to one hundred percent efficiency in spelling the most common words as long as we try to teach the spelling of eight or ten thousand words—most of which will never be used in writing. It is necessary, therefore, to **isolate** the most **difficult** of the **common** words and drill on these **in class,** then give individual attention to the **poor spellers.**

Causes of Misspelling. At this point it is desirable that the causes of misspelling be considered.

There are two classes of misspelling: first misspelling because one is ignorant; second, misspelling because one is careless. Let us take up only the former class. Carelessness in spelling is to be cured usually by the same methods by which we cure carelessness in anything else.

The English language is an unphonetic language—that is, the sound of **spoken** words does not always indicate the **appearance** of the **written** words, and vice versa. Take the **ough** sound, as illustration. In **through, ough** has the sound of **oo**; in **though,** it has the sound of **o**; in **plough,** it has the sound of **ow**; in **tough,** it has the sound of **uff**; in **cough,** it has the sound of **off.** Many vowels and consonants and consonant combinations have varying sounds in different words. If **ie** always represented the same sound, and **ei** a different sound, we would have little difficulty in spelling them. This is the most fruitful cause of misspelling.

In addition to the unphonetic nature of our language, many of us are lazy and careless in our enunciation, and fail to give in our speech the exact sounds, which would indicate the correct spelling. We say "probly" for "probably," therefore we are likely to write the word **probly**; we say "seperate" instead of "separate," therefore we are likely to write the word **seperate.**

In the third place, many persons have some physical or mental defects which cause them to misspell. One's vision may be indistinct, so that he cannot **see** a word clearly; one's hearing may be so poor that he cannot **hear** a word distinctly, or, because of physical or mental defects, one may never have a clear-cut image of how the word looks; he cannot "shut his eyes and see the word."

Finally, a child may misspell because he has learned the wrong spelling and has it established **as a habit.**

These conditions make it imperative that we **know why each child misspe ls** and that we **teach** spelling. Most teachers do not really teach spelling; they merely assign the spelling lesson, then **test** to see if the children have learned. By simple tests we can tell why a certain child misspells a certain word. But the **teaching** of spelling is more difficult. Let us, then, consider

How to Teach Spelling.

First, through spelling lessons.

1. Have a definite period for teaching spelling in all the grades after the second year. The teacher should assign from the spelling book or from his own **lists** of misspelled words, not more than five new words a day—fewer than that, in the lower grades. **Test** the children on the **easy**, common words; **assign for study** only the difficult common words; pay no attention at all in class to the uncommon words.

2. When assigning the words for study, make sure that the children understand the meaning of the words. They need not define the words, but they should be able to give synonyms or use the words in sentences.

3. **Pronounce** the words being assigned and have the children pronounce them; **write** them on the board and have the children write them.

4. Clearly indicate the difficulties in the words. If, for example, the word "describe" is one of the words assigned, show the children that they are likely to misspell the **de**; underscore this part of the word, or write it on the board with colored crayon. Focus the children's attention on this section of the word.

5. Direct the children how to master the words. Some persons are "eye-minded;" they will learn best by looking steadily at a word till it makes a picture on the mind. (But the word being studied should be in **script** symbols rather than in **print** symbols since the images of the two are somewhat different, and it is the script that we wish the children to image.) Some persons are "ear-minded;" they will learn best by spelling the word orally and hearing it. Others are "muscular-minded;" they will learn best by writing the word. Most persons will learn best by using all three methods, thus impressing the word upon their minds in different ways.

6. Ability to spell the words assigned may be tested either orally or in writing. One of the best ways is by having the children write sentences (either original or dictated by the teacher) in which the assigned words are used. But the only final and absolute test of spelling ability is power to spell the word in actual written expression when the pupil is intent upon the content and not the form.

7. Reviews of the difficult words are absolutely necessary. It is **permanent** mastery we are trying to achieve, not a temporary ownership that soon is given up.

Second, through language and composition work. The teacher who expects to make her pupils good spellers must have them write a good deal and she must examine their writing. This is important for three reasons. First: It reveals what new words the children are misspelling, so that the teacher may test them and make lessons of them. Second, it is the best means of testing the ability of children to spell the words already taught. Third, it is the only way of training the children in spelling correctly **through habit** under the conditions in which they will be expected to spell in life. The teacher, therefore, should never ignore misspelling in the written work of the pupils; it is always significant.

Third, **through other school subjects.** When difficult common words are found in other subjects, such as History, Geography, Literature, etc., the children's attention should be called to these words. But it is only the **common** words that should be given attention. It is a waste of time to require the children to learn the spelling of difficult words or proper names in Geography or History or any subject, unless there is a strong probability that the children will some time have occasion to use these words. The work in spelling should aim to

give children mastery over the words they use or will use in writing, not to enlarge their vocabulary.

We have been considering the means of teaching children to spell the more common words. Let us now take up the second kind of spelling work.

II. Taking Pride in Spelling Correctly.

It is difficult to bring children to an appreciation of the importance of accurate spelling. Correct spelling is almost entirely a matter of form—and matters of form are hard to make vital. Not very often does the wrong spelling of a word obscure the meaning: **Separate** with an **e** in the second syllable is clearly understood as **separate,** not something else.

The only ways in which we can bring home to children the importance of spelling, are: First, by making it clear, by repetition and by numerous examples, that when they are out of school and are writing letters or anything else that is to be read, they will be looked upon as illiterate if they misspell words; Second, by placing a great deal of earnest emphasis upon the spelling process in school: by urging them to correct their spelling faults, by paying attention to spelling in their written work, by reminding them that words are not theirs till they can spell them, by spelling matches—by every legitimate means we can adopt. Children must develop a **spelling conscience,** must be brought to the point where they feel guilty if they spell incorrectly. If we cannot do this, attempting to teach children to spell is almost hopeless.

III. Learning Rules and Acquiring the Dictionary Habit.

But it is not enough that we teach children to spell all the common words they wish to use and to feel a sense of pride in spelling these words. We must also equip them for conquering new words which they will learn later on and will wish to spell. The child, who, when he leaves the elementary school is not provided with the ability to learn the spelling of new words, learn them rapidly and easily, is untutored in one of the fundamental aspects of spelling. Two of the tools in the use of which the child should attain skill **while he is in school,** are spelling rules, and the dictionary.

Spelling Rules. There are just a few spelling rules that are worth teaching, but these few are well worth it. Here are two that should be taught: A monosyllable or polysyllable with the accent on the last syllable ending in a single consonant preceded by a single vowel doubles that final consonant before a suffix beginning with a vowel. Examples: Hop, hopping; bag, baggage; omit, omitting; acquit, acquittal. This rule is almost invariable. 2. Most words ending in silent **e,** drop the **e** before a suffix beginning with a vowel. Examples: Write, writing; excite, exciting. There are some common exceptions to this rule.

Any person who knows these and a few other useful rules, and has learned to apply them can solve many of the spelling difficulties as they come up in life. If he does not know them, he must learn hundreds of different forms—he must learn not only **hop,** but **hopped,** not only **write** but **writing** as separate forms. Surely it is more economical of time and energy to teach the rules and train the children to apply them.

Using the dictionary. Before they leave school, children should be made thoroughly acquainted with the dictionary and trained in its use. When, for example, he wishes to use a certain word in a composition and realizes that he

does not know how to spell it, or if he has spelled the word incorrectly, the teacher should direct him to the dictionary, and should show him how to use it. Most children cannot find their way about in the dictionary; the teacher must go with him as a guide. Every pupil in the upper grades should be in the habit of consulting the dictionary to ascertain or to verify the spelling of words. In no other way can a child attain mastery over one of the most important tools of knowledge.

Conclusion.

Eliminating all but the useful words and concentrating on these useful words, really **teaching** them, and making the children automatically and habitually correct in the spelling of these words; requiring the children to write much, that they may learn the words in natural settings; inspiring a pride in correct spelling and a shame for incorrect spelling; and giving children command of the spelling implements by which they may at any time learn the spelling of new words—these are the most important parts of the method in spelling.

Outline by Grades.

Teachers will find excellent suggestions for teaching spelling in the prefaces and appendixes to the texts. The texts contain many more words than children need to know how to spell. Teachers, therefore, should omit any words not commonly used by the average person in his writing, and should teach the spelling of all words used in the children's writing even though they are not found in the spelling textbooks. No book should be used the first and second years.

Third year—Mastery of Words, Book I, pages 1-50.
Fourth year—Mastery of Words, Book I, pages 51-90.
Fifth year—Mastery of Words, Book I, pages 91-134.
Sixth year—Mastery of Words, Book II, pages 1-41.

ARITHMETIC.

1. **Scope of Arithmetic.** Arithmetic should be taught throughout the third, fourth, fifth and sixth grades. No formal study of the subject should be encouraged or allowed in the first and second grades. A limited amount of number work may be accomplished in the first two grades, but it should all be oral and incidental; that is, it should grow out of other lessons and activities, both in and out of school, in which the child takes part.

The regular, required work beginning in the third grade should be varied to suit the needs of the children at each age. It should be made practical and closely related to the child's surroundings and to what the child already knows.

2. **Definite aim by the teacher.** The teacher should plan each lesson carefully, keeping in mind the principle that facts learned in arithmetic are valuable in proportion to the amount of use they have or will have for the pupils. Each lessons or connected series of lessons should have a specific aim. The work of the class period must all center around this aim. All work of the pupils should be accurate, neat, and done rapidly. Accuracy and speed must be gained at the same time. "Accuracy first and speed afterwards" is bad in that it leaves the child with many bad habits to overcome.

3. **Motivation.** There are two ways of motivating,—that is, of developing in the pupil a lively interest in—school work in arithmetic. (a) One may appeal to the child's instincts such as the joy of mastery, or to the spirit of emulation, always present in classes. (b) One may impress upon the pupil his present or his future need of the work. All work should be motivated if the child is to make rapid progress.

4. **Drill.** There should be short drill periods nearly every day so that the child will not forget what he has learned. This should not be given in the same way each day, but should be varied. Drill work that grows out of the regular lesson is more fruitful and lasting than set periods for drill, but the latter are necessary at times. Each fundamental learned should be recalled by some method until it is firmly fixed.

5. **Thought work.** The child should be taught in analyze problems before attempting their solution. He should be trained to see what is given, what is desired, the particular type of problem, and the process required in its solution.

6. **Importance of fundamentals.** The importance of the four fundamentals should be realized since they are the foundation of all future work. If they are poorly taught, the pupil will always have trouble. Adding, subtracting, multiplying, and dividing are not simple, single operations, but are more or less complex. Hence it is very important that the teacher sees that they are thoroughly understood.

7. **Method of developing a new process.** New processes should be developed first objectively and concretely. The child should not be told that he is taking up something new, but should be led up to it through othe work and before he realizes it, have him grasp the new process.

8. **Waste in the teaching of arithmetic.** The waste which frequently occurs in the teaching of arithmetic usually results from the following:

(a) Teaching subject matter that lacks practical value.

(b) Teaching without clear aims and without having the work well planned.

(c) Teaching what the pupil already knows.

(d) Teaching without training in how to make the best use of one's time in study.

(e) Drudgery in teaching and study, such as drilling in a subject after pupils have learned it sufficiently well, teaching or studying non-essentials, etc.

(f) Unsystematic drill.

(g) Waste of time in such operations as roll call, passing papers, etc.

(h) Giving assignments not bearing on the main point.

(i) Teaching without systematic check upon deficiencies and attainments.

(j) Doing too much for the pupil.

(k) Doing too little for the pupil.

9. **Assignments.** The teacher should be careful to make proper assignments. A part of the recitation period should be taken up in going over the next lesson in order to see that the class clearly understands what is to be done. This is to be accomplished not by merely telling the children what to do and how to do it, but by making the assignment an exercise in which the children take a lively part and a keen interest. Discussion in which the children take part will reveal the points which need to be made clear and will enable the teacher to avoid dwelling on the points which they already understand. The lesson after such an assignment will not be drudgery to the child, but a pleasurable task.

10. **Preliminary work.** No regular work in arithmetic should be given in the first and second grades; but incidentally and in connection with the recitations in other subjects much may be done to prepare the way for the work in arithmetic to be taken up regularly in the third grade. Such words as **large, small, less, more, wide, narrow,** and the like will occur in class work. The difference in these terms should be shown with objects.

The numbered pages in the children' primers, the number of windows in the school room, the number of desks in a row and in the room, the number of children in the class, the number of houses in a certain block or along a certain stretch of roadway, the number of fields on a certain farm and the number of domestic animals of any certain kind on a farm and a hundred other things offer opportunity to the wide-awake teacher to develop in the children the idea of number.

In the same way, if the actual measures are at hand, such terms as pint, quart, gallon, inch, foot, yard, ounce, pound, etc., may be taught. While the face of a clock, either actual or carefully drawn on the blackboard or a card, can be used to teach a few of the Roman numerals. It is not unlikely that opportunities will arise to teach a few simple fractions. The teacher should, however, keep in mind that he is not to teach number in these grades except as the work grows naturally out of the children's other activities.

Third Grade.

Beginning with this year it is necessary that the pupils have a textbook and that a regular period be set aside for work in arithmetic. The teacher should be careful, however, that the work does not become formal with the introduction of the text. The use of objects to teach number facts should be freely resorted to.

1. **Notation and Numeration.** The pupils should learn to read and write numbers through 1000, and Roman numerals to L. They should also learn to read

and write numbers involving dollars and cents. They should learn to begin at any digit and count by 2's and 3's to 100, to count to 100 by 6's and 8's.

2. **Addition.** The pupils should learn to add rapidly and accurately in columns of eight to ten figures. The most emphasis should be placed on two and three place numbers. The addition should be both oral and written. Teach the term "sum," but not the term "addend."

3. **Subtraction.** Emphasize speed and accuracy. Illustrate freely by the use of objects and drawings. Teach such terms as difference and remainder, but not such terms as "minuend" and "subtrahend."

4. **Multiplication.** Teach multiplication by one figure numbers. Teach the multiplication tables to 9 x 10.

5. **Division.** Teach division by one figure numbers.

6. **Denominate numbers.** Teach and illustrate objectively such terms as pint, quart, gallon; quart, peck, bushel; ounce, pound; inch, foot, yard; square inch, square foot, square yard; introduce the use of the ruler, and other units of measure. Do not tell the children that two pints make a quart, but have them find out for themselves. Problems should never involve more than one step.

7. **Fractions.** Teach objectively the use of half, third, and fourth. Children in this grade should learn to add and subtract easy problems involving halves, third and fourths, but it must be done with the use of objects or drawings.

8. **Textbook.** Complete Part II of Hamilton's Elementary Arithmetic. Page 106. The teacher should have two or three other good books for this grade.

Fourth Grade.

This grade has not very much new work. The teacher of this grade should study the third grade work and aim to extend the processes. Considerable review and drill should be given in this year. It is very important that the teacher use good judgment to see that this does not become drudgery.

1. **Notation and Numeration.** The pupils should learn to read and write numbers to 10,000. Roman numerals should be learned to C.

2. **Addition.** Give much drill in addition. The difficult combinations as 9+7, 8+5, 8+7, 7+4, should be emphasized. Pupils must learn to recognize at sight the sum of groups of two and three figures. Numbers of three and four figures and six to eight figures in a column may be added in this year. Have the pupils check their addition by adding a second time in reverse order.

3. **Subtraction.** Teach accurate and rapid subtraction of three, four and five place numbers. Teach the business way of making change—by adding to the price of the article what is needed to complete the amount of money given in payment.

4. **Multiplication.** Teach multiplication of three and four place numbers by two place numbers. Insist on speed and accuracy. Teach the terms multiplier, multiplicand, and product.

5. **Division.** Teach the division of three and four place numbers by two place numbers. Insist on speed and accuracy. Teach the use of the terms divisor, dividend, and quotient.

6. **Denominate Numbers.** Teach the measurement of time, weight, length, and surface. Have measures in the school room and have the pupils get an understanding of the terms objectively. Tables have no value unless there is a definite meaning of the terms. Teach only units of measurement

that are used in everyday life. Introduce many practical measurements in connection with the tables. The pupils should learn to formulate their own problems and then the teacher can be sure they have an understanding of them. For example, they may be asked to state a problem for finding the cost of fencing a field at a given cost per rod. The dimensions may be assumed, or if convenient, they should be gotten by actual measurement. They should make actual measurements in and about the school room and formulate and solve under the teacher's supervision problems about the cost of plastering at an assumed cost per square yard, the cost of the flooring at an assumed cost per thousand square feet. Similarly, weight and time may be introduced into many practical problems. Facts in problems should be true to business, or actual conditions.

7. **Fractions.** Teach the add tion and subtraction of halves, fourths, eighths, thirds, sixths, and ninths. Use objects such as the diagrams of c rcles, splints, apples, potatoes, paper cutting, etc., to teach the addition and subtraction of fractions.

8. **Textbook.** Complete Part III of Hamilton's Elementary Arithmetic. Page 107-185. Supplement this with outside practical problems and other texts.

Fifth Grade

1. **Notation and Numeration.** Teach the reading and writing of numerals through 1,000,000; the reading and writing of common fractions with small denominators; the reading and writing of decimals through three places; the reading and writing of mixed numbers, using "and" in reading mixed numbers only between the whole number and the fraction; the reading and writing of Roman numerals through C, and the numerals D and M.

2. **Four Fundamentals.** Test the pupils in addition, subtraction, multiplication, and division. If they fall below the standard, give them drill work until the desired proficiency in speed and accuracy has been secured.

3. **Denominate Numbers.** Teach the tables for liquid measure, dry measure, avoirdupois weight, time measure, and linear measure. Problems should never involve more than two steps, in reduction.

4. **Practical Measurements.** Have the pupils formulate many problems in lengths, surfaces and solids and solve. They should do considerable measuring in order to get data for their problems. After the measurements have been secured have them make drawings to scale.

5. **Fractions** Teach the reduction of common fractions to higher and lower terms. Addition and subtraction of fractions should be taught objectively by the use of paper cutting, diagram of circles, rectangles, and lines. Use small denominators in teaching fractions objectively. Do not continue the use of the objects after their purpose has been realized, or the pupils will form the bad habit of depending upon them. The terms numerator, denominator, common denominator should be taught. No denominator larger than 100 should ever be used and rarely ever one above 32, hence it is possible to find the common denominator in most case by inspection. Teach the reduction of improper fractions to mixed numbers, of mixed numbers to improper fractions. Teach the reduction of common fractions to decimals and the reduction of decimals to common fractions when the denominator will be less than 100. Teach thoroughly the addition, subtraction, multiplication, and division

of common fractions and decimals. Make much use of cancellation. Connect the use of decimals with problems in United States Money.

6. **Bills and Receipts.** One period a week should be spent in making out common accounts, bills, and receipts. It is much better to spread this work over the entire year than to concentrate it in three or four lessons. It will become fixed in the pupils' minds better and be more lasting, and will give an opportunity to use wider experience.

7. **Percentage.** Devote some time to easy problems in percentage. This work should be closely related to the work in common and decimal fractions. Show the pupils that it contains nothing new except notation.

8. **Interest.** Out of the work in fractions and percentage should grow some simple problems in interest. It should here be made clear that interest contains no new principles.

9. **Textbook.** Complete Part IV in Hamilton's Elementary Arithmetic. Supplement this with practical problems.

Sixth Grade.

In this year the pupils should finish all the mathematics that is used in the common business of the world. It will of course be necessary that their mathematical experience be very limited. The chief purpose is to develop skill and accuracy in the fundamental operations, in order that a future advance may be secured. All cases of "arrested development"—such as counting while adding, adding instead of using the multiplication combinations, and writing down numbers to be added to the next higher order in multiplication—should be corrected.

1 **Notation and Numeration.** Review and teach all forms and varieties of notation and numeration.

2. **Four Fundamentals.** Test the pupils in addition, subtraction, multiplication and division. If they fall below the standard, give them drill work until the desired proficiency in speed and accuracy have been secured.

3. **Denominate Numbers.** Teach the reduction, addition, subtraction, multiplication and division of linear, square and cube measure. Review the work of the previous grades.

4. **Practical Measurements.** Give the pupils considerable practice in measuring lengths, surfaces, and solids. Have them formulate their own problems from the measurements. The problems should all be practical. Have pupils find area of school lot, dimensions of school room, total area of walls and ceiling, the window space, blackboard space. Have them bring many practical problems from home.

5. **Fractions.** Give drills in all the fundamental operations. Change common fractions to decimals and decimals to common fractions Teach the reading of decimals to six places, but in the solution of practical problems have the pupils use only three places or less. Introduce many business applications of decimals.

6. **Simple Accounts.** There should be at least one period a week devoted to the keeping of simple accounts. If the children have money to spend, they should make a record of their income and expenses. If the pupils wish to use their family grocery bill, this will furnish excellent data.

Sample Page of Account Book.

1918		Receipts		1918		Payments	
March	2	On hand	$2.34	March	4	Book	$0.50
"	9	Selling papers	.40	"	8	Car fare	.25
"	16	Errands	.15	"	14	Pencil	.05
"	23	Selling papers	.20	"	31	On hand	2.39
"	30	Errands	.10				
			$3.19				$3.19

7. **Percentage.** Make many simple applications of decimal and common fractions to percentage. Show the pupils that the only new thing in percentage is the notation. Make little use of the terms base, rate, and percentage as these are seldom used outside of the school room. Use the terms percent, interest, rate of interest, as these are used in real life. Only two kinds of problems involving percent should be used. The following examples illustrate these—find 25 percent of 624; 25 is what percent of 625? Have pupils learn the percent equivalents for 1/2, 1/5, 1/6, 1/8, 1/10, 1/12, 2/3, 3/4, 3/8, 5/8, 7/8, 1/20. These percent equivalents should be made as automatic as the multiplication tables.

8. **Interest.** Teach thoroughly simple problems in interest. Do not teach several methods, but teach one thoroughly. The simple form of computing interest for one year and then multiplying by the number of years is most satisfactory.

9. **Textbook.** Complete Part I in Hamilton's Practical Arithmetic. This should be well supplemented with practical problems.

Helpful Books on the Teaching of Arithmetic.

Teachers wishing to make further study of the teaching of arithmetic are referred to the following books:

The Teaching of Mathematics—J. W. A. Young, Longmans, Green & Co., New York.

How to Teach Arithmetic—Brown and Coffman. Row Peterson & Co., Chicago.

The Teaching of Arithmetic—David Eugene Smith. Ginn and Co., New York.

The Teaching of Arithmetic—A. W. Stamper. American Book Co., Cincinnati.

Special Method in Arithmetic—McMurry. Macmillan Company, New York.

The Teaching of Primary Arithmetic—Henry Suzzalo. Houghton Mifflin Company, New York.

The Teaching of Arithmetic—Paul Klapper. D. Appleton & Co., New York.

Number by Development—John G. Gray. J. B. Lippincott Co., Philadelphia.

NATURE STUDY.

General Statement.

Every teacher, or every school in which nature study is taught, should be a subscriber to the Nature Study Review, Ithaca, N. Y. The teacher or school should have a copy of Bailey's Nature Study Idea, Doubleday, Page & Co., New York City; Bigelow's How Nature Study Should be Taught, Hinds Noble & Co., New York City; and Coalter and Patterson's Practical Nature Study and Elementary Agriculture, D. Appleton & Co., New York City.

This journal and these books are for the teacher. They will aid in planning and organizing the work, and help in finding, and directing the pupils to find material for study.

Nature study is an objective study. The pupils should have no books; it is not reading. The child needs a rich, concrete background for the study of geography, agriculture, hygiene and sanitation Nature study properly taught will furnish this background, and give the child an intelligent outlook on the world. The teacher must get the spirit and point of view of nature study.

Nature Study deals with common objects and processes as they directly affect human life and interests.

Both the material and method must be for the child rather than for the adult.

Guide for the teacher in selecting lesson material:

1. Is it suitable material?
2. Can it be seen, handled, etc.?
3. Is it a common thing?
4. Does it have many common interests? Example—The house-fly.

The main purpose is to get the child to sense, image, and think for himself. A study of nature enables the child to grasp the forces about him and to turn them to his advantage.

The aim should be to awaken an interest in nature and to give a general acquaintance with it, as it lies nearest to the children.

The children should be brought into actual contact with the object of study, whenever possible, either in or out of the school room. Nature study is a study of natural forces and natural objects in their natural setting.

Emphasis should be placed at all times on plants and animals as living things, and their mutual dependence upon each other.

In the lower four grades, nature study, geography and hygiene should be taught through the year as one subject and in one way or another appear on every day's program.

The lessons may afford additional material for language and composition work.

In rural schools all the children in Grades I-II should be grouped together for this work.

FIRST GRADE.

Fall.

First-Grade pupils are eager to watch things move and act—hence they like to study birds, chickens, rabbits, cats, dogs, etc.; watch a rapidly growing plant, or note the effect of the wind on smoke, on weather-vanes, etc.

Birlds, animals, trees, flowers, insects, pets, earth and sky should be the general topics.

Teach only the facts which are easily within the child's comprehension.

Birds: Recognition and name of some of the common birds of the locality, their food and feeding habits. Encourage the children to feed the birds and to build bird houses. Some kinds of birds leave us in the fall. Why? Note the time when they go. Note when they return.

Trees: Recognition of trees by leaf, fruit, bark. Winter buds, their color and protection. Study the kinds of fruit grown in the neighborhood.

Field Trip.

Purpose: To identify the forest tree of the locality, and collect specimens of leaves, bark, and, if possible, the fruit.

Note to Teacher: Unless the trip is carefully planned and both the object to be attained and the method of procedure are definitely fixed in mind the trip will degenerate into a mere picnic excursion without object or destination.

Things to Observe: Note the two great classes of trees, evergreen (like the pine or cedar) and deciduous (like the oak).

Observe the bark and leaf of some of the common trees, but do not attempt too many at one trip. It will lead to confusion of ideas.

Collect bark and leaves and fruit when possible. This material may serve for language and drawing lessons.

Note the rings on the end of a log that has been sawed squarely across. If a log cannot be found have one or more of the boys to bring to school blocks sawed off so that the annual growth of the tree may be seen.

Look for diseased trees. How are they injured?

Try to find a place where trees have prevented excessive washing of hillside. Look for beautiful trees suitable for shade.

School Room Work Based on Field Trip.

Oral story of trip by the pupils.

Have pupils who can write make a list of trees studied.

A written composition may be required of the older pupils.

Have pupils draw and paint leaves.

The teacher may think of other ways of using the material and ideas gained by the trip.

Flowers: Learn the names and means of recognizing some of the fall flowers, as the goldenrod, aster, geranium, and chrysanthemum.

A field trip migh be made to study the fall weeds and fall flowers.

Have children save flower seeds and plant in the spring.

Plant peach pits and apple seeds, after preparing a place for them on the school grounds.

School Calendar.

Have a school calendar on the blackboard or on a large piece of cardboard. Have children observe weather conditions and fill in the calendar daily so that at the end of each month there is a complete record of wind, rain, sunshine, temperature, etc.

See model for home geography under discussion of that subject.

Place a weather vane on the school building. Have the children associate the state of the weather with the direction of the wind.

Get Climatological Data—U. S. Weather Bureau, Parkersburg, W. Va

Winter.

Birds: Name birds hat have gone since fall began. Name those which remain.

How to make friends with the birds. Read or tell bird stories.

Insects Where have they gone? How will they get here again in the spring?

Compare the winter life of the squirrel and the rabbit.

Plants Where are the wild flowers now?

Call attention to the house plants and the care that is given them.

Can you notice any difference in the buds of the trees as winter goes away? Look closely for changes.

Study the winter coats of buds, especially of the yellow linden trees and the hickory.

Compare length of day and night in fall and winter. What effects produced?

Spring.

Birds: Find out the names of the newcomers. Notice what they are doing and tell only what you see.

Watch at least a pair of birds during the spring and summer and tell the complete story of what you see them do.

Trees: Note changes in the buds, leaves, etc.

What trees leaf first?

Can you gather and preserve the seeds of the elm, the willow, the maple, the poplar?

Watch for the appearance of the apple and peach seedlings, and care for them.

Plant seeds of maple, elm, willow, and poplar in the school garden, and care for them. Note the kinds of soil these trees grow in and make your garden soil like it.

Seeds: Sprouting of seeds observed; the different ways the seeds come out of the ground; parts of seedlings (roots, stems, leaves); uses of parts of plants.

Plant seeds of the Lima bean and the nasturtium, and learn how to care for the young plants. Try to raise enough seeds for the children to plant next year, as well as to plant in the home garden.

Arrange to care for the garden during vacation.

SECOND GRADE.

Fall.

Second-grade pupils add to this general interest in action in the first grade a personal attitude and so want their **own** pets, flowers, discoveries, etc., discussed. Individual gardens are here a joy.

Birds: Recognition and names, homes, food and feeding habits, sounds or calls; enemies.

What new names can you add to the list of birds you saw since last Spring?

Can you tell anything new about the habits of any bird you have previously observed?

Will you find out all you can about the partridge?

Organize a "Bird Club" in your school. Purpose to save the birds.

Insects: Recognition and name of cabbage butterfly, potato beetle, rose bug, cricket, grasshopper.

Can you find some eggs of the butterfly and watch them develop?

Can you collect some caterpillars and watch them feed and develop?

Can you collect and keep some cocoons through the winter?

Plants: Can you add some new fall flowers to your list made a year ago?

Examine the flowers of the pumpkin, the red clover, the sunflower, the morning glory, the aster, and tell how they differ from the flowers of the Lima bean.

Will you try to draw them?

Trees: Can you tell the names of some other trees you have learned to know since last year?

We will try to learn to know the trees by means of their buds, outline, and bark after the leaves are gone.

Seeds: Tell some ways seeds get out into the world.

Can you name some seeds that use wings? Some that steal rides?

Work to Do. Save seeds of pumpkin, morning glory, sunflower and sweet pea to plant next spring.

Plant acorns and chestnuts and watch development in the Spring.

Winter.

Daily observations of weather recorded in class calendar.

Locate north by noonday shadow, east and west by rising and setting of sun.

Difference in length of day and night at different seasons of the year.

Illustrate freezing, melting, evaporation.

The sky: What it is; its color; its shape.

Preparation of the garden for Spring.

Feeding and protecting the birds.

Lessons on kindness to animals.

Spring.

Birds: Migratory birds; ducks and geese, phoebe, swallow, robin, bluebird, blackbird, catbird, humming-bird, scarlet tanager, oriole.

Special study of one kind of bird.

Protection of birds. Birds are the farmer's friends.

Made a study of the hen, as to breed, color, size, uses and care.

Plants: Watch for the spring flowers and try to name them as they appear. A love of flowers should be cultivated.

Development of Bulbs: Onion, hyacinth, tulip, crocus.

Bulbs placed in moist saw-dust, soil or water; observation of the development of roots, stems and leaves.

Animals: Frog or toad; development from egg. Its use to man. Its protection. Continue the observation of any other animal previously observed in which the children are interested, as the horse or cow.

The Soil: Observe the effects of freezing on the soil. Running water. Where the best soil is found and why.

The need of good soil may be shown by cultivation of seedlings or plants in saw-dust, in sand, and in rich loam.

Climate: Note the effects of the length of the day on the temperature.

THIRD GRADE.

Fall.

Third-grade pupils add imagination to that of first and second-grade pupils, and enjoy personification of objects in nature, loving best those which can be played with or which have stories—pansy faces, sweet-pea bonnets, Greek, Norse, and Indian interpretations of nature.

Birds: Continue the study as time permits.

Recognition and name of the resident birds—woodpecker, owl, blue-jay, crow, wild canary, cardinal, nuthatch, etc.

Plants: Study how to shape the plant by the selection of the seed.

How seeds are protected while ripening; adaptation for dispersal by wind, water, birds, hairy animals.

Collection of dry fruits to show form and method of seed dispersal.

Field Trip.

Purpose: To observe, study and collect specimens of weeds and dry fruits.

Note: Take also the larger pupils, and have them keep a record of the weeds examined.

Things to Observe Where the greatest variety of weeds are found, near buildings and roads or in the open fields? Why? Notice the variety of ways in which weeds bear their seeds.

Special arrangement of plants for dispersal of seeds. How many seeds does one weed produce?

Will weeds of a certain kind be more plentiful in a field where crops have been grown year after year?

Have upper grade pupils classify weeds according to their length of life.

1. **Annuals** are those which spring from seeds, blossom, fruit, produce seeds and die down the first season (as the ragweed).

2. **Biennials** grow the first season without blossoming, usually storing up food in their roots, blossom and seed the following season and then die down completely (as the burdock and wild carrot, etc).

3. **Perennials** live and blossom year after year (as the dandelion, plantain, etc.).

Note: Write the Secretary of Agriculture, Washington, D. C., for Farmer's Bulletin, No. 28, "Weeds and How to Kill Them;" No. 86, "Thirty Poisonous Plants;" No. 195, "Annual Flowering Plants." Write to College of Agriculture, Morgantown, West Virginia.

Classify weeds according to ways of spreading or planting their seeds; that is, by means of the wind, water, animals, mechanical contrivances or artificial means.

The Weather: Note the changes that take place about us with the coming of winter. The ways that we prepare for winter. Make a record of the thermometer readings. Continue the weather calendar.

Winter.

Study of vegetables in the store. Know what is in the home markets and what is not produced at home.

Transportation of products and disposition of them.

Kinds of soil—clay, sand.

A study of trees for building materials.

Study land surfaces, and the effects of weathering.

Record of weather observations.

Life and habits of common wild animals in winter, fox, squirrel, etc.

Spring.

Natural Phenomena: The sun, effects of heat and cold on water and soil, and on plant and animal life; changes of seasons.

Cultivation of Plants: The needs of plants. Propagation of plants by seed, by slips, by runners; growth of roots of slip in water.

Demonstration: When does sap ooze through stem and leaves? Why do leaves wilt? How do leaves move with reference to light?

Recognition and name of trees, plants and flowers.

Plant for special study: Corn.

Lesson Plans.

The great fault of formal nature study has been indefiniteness, no plan.

A lesson plan should have a definite aim all the way through it.

Three questions to ask in preparing a lesson plan.

1. Is this material suitable?
2. How is this plant or animal to take care of itself?
3. How does it affect human life and how can we help it do its work?
4. Any interesting point not brought out by the other three.

Below are given some lesson plans which it is hoped will aid the teacher by their suggestions.

The Dog (Second Grade).

Aim: To teach sympathetic interest in the dog.

Subject Matter and Method:

1. Introductory talks about each child's dog. Kinds of dogs. How can you tell? Name other dogs.
2. What have you seen the dog do? How does he make his living? How does he help us? How can we help him?
3. Harm some dogs do.
4. How tell a sick dog from a well dog?
5. Tell or read some good dog story.

The Common Toad.

Aim: To see the toad and learn of its usefulness to man.

Subject Matter and Method:

With the toad before the class, either in a screened box, or in a tumbler covered with netting—the cage filled with insects of all sorts, talk with the children about as follows:

How does a toad drink?

Do we like animals that help or harm us? What things eat our garden vegetables?

Wouldn't a pet be fine that would eat these pests?

Here is one. Let me introduce him to you.

What do you think of his appearance?

Look at his eye. Teach children that toads do not make warts.

Speak of his value. Observe the number of things he eats.

How can we make greater use of toads in the garden?

Build a toad house in the garden.

Window Gardens.

Aim: To teach how to make and to find pleasure in window gardens.

Subject Matter and Method:

1. The boys should make a box to fit the window sill. Place it upon blocks and have oil-cloth under it to prevent water from damaging the wood.
2. Place small stones, sand and moss in the bottom to about ¼ the depth of the box. Fill the box with rich, sandy loam.
3. Plant flower seeds, bulbs, cuttings, etc.
4. Water every day and keep the surface loose.

Brook Studies (Third and Fourth Grades).

Aim: To learn the nature and life along the streams.

Subject Matter and Method:

Several excursions may be made to a stream, each time with one or more of the following aims:

1. Make exact measurements of length and width.
2. List the trees, shrubs, plants, etc., by and in the stream.
3. Record the animal life seen in or near.
4. Make a map of a section of the stream and land near.
5. What farms or home grounds touch it?
6. Changes which occur in its course from time to time.
7. Land it drains, its source, mouth, tributaries.
8. Soils along its course.
9. Condition of water for fish and use of man.

The Robin (Third and Fourth Grades).

Aim: To see and to learn the habits and value of the robin.

Subject Matter and Method:

1. Go out with the class near a robin's nest. Sit down and watch.
2. Recognize the robin by song and appearance.
3. Where does the robin like to be? Why?
4. What have you seen the robin do?
5. When does it sing most? Try to imitate the song.
6. Where does it nest? Out of what is the nest made? Number and color of its eggs.
7. What does the robin eat? Is it our friend? Why?
8. Can the robin be tamed? How can we help the robin?
9. What are the robin's enemies? How can we protect it?

10. The legend of the "Red-Breast."
11. Refer to Readers for robin stories.

The Coddling Moth (Fourth Grade).

Aim: To become acquainted with the moth and to learn of its injurious work.

Subject Matter and Method:

1. Have some knotty apples for the class and show the worms in these apples. Cause the children to understand that these apples would be perfect if the worms had not got into them.
2. Tell the life history of the moth. Ask the children to look behind the loose bark of the apple trees to find the silken pod in which the larva stays during the winter.

Lead the children to see that it would be well to scrape off this loose bark in winter and whitewash the trunk of the tree.

3. How many have seen woodpeckers picking into the bark of the apple tree?
4. Tell of the work of spraying.

Leaves of Common Trees (Second, Third and Fourth Grades).

Aim: To learn the names of five common trees as distinguished by leaves, and learn what leaves are for.

Subject Matter and Method:

1. Have each child bring leaves from five different trees or go with the children to gather them.
2. Have children fasten the leaves on a sheet of paper or cardboard and write the names of the leaves below. Classify them as to shape, size, color, and margins.
3. Let each child stand before the class and name his leaves and tell where he got them.
4. After becoming familiar with the five leaves ask:

"What does the leaf do?"

"What are the leaves good for?"

"What becomes of them?"

5. Read some simple poems about leaves.
6. Drawing lesson on leaves may follow.

FOURTH GRADE.

Fall.

Fourth-grade children become somewhat more literal-minded and want facts, enjoy noting general relationships, as, for example, that gourds, canteloupes, pumpkins, watermelons, etc., belong to one family; that clouds, rain, snow, hail, frost, dew, and condensed water on the outside of a cold pitcher, are related; or that the domestic cat is worth studying as a representative of a large family of animals possessed of similar characteristics.

Note: **Nature Study** and **Home Geography** should be the same course in the fourth grade. Both should consist of observations.

Plants: Woody plants; industries dependent on forests; plants without wood; useful plant products; protection of trees.

Trees: Uses to tree, of bark, of wood, and of pith; annual rings and medullary rays. (Study cross and long sections of piece of wood); uses of heart wood and sap wood to plants and to man; movements of sap (maple); blossoming and fruit, formation of fruit and shade trees; uses of wood in building and in furniture (collections); use of trees in producing rainfall. Emphasize the protection and planting of trees.

Forms of Stems: Erect, prostrate, climbing by tendrils, twining by stems or petiole; why plants seek erect position; underground stems (potato) and bulbs (onion); uses of stored nourishment to plants.

Plant products useful to man.

Vegetables classified as roots, stems, leaves, bulbs or fruits.

Fruits classified as fleshy, stone, and dry.

Medicines and **spices;** bark, leaves, sap, extracts.

Clothing; cotton, linen.

Woods; those used for building, or furniture; characteristics which fit them for such.

Winter.

Animals useful to man; birds, bats, toads, frogs, fish, turtles, lady-bugs, beetles, dragon-flies, bees, sheep, cow, goat, ox, house, donkey, mule, etc. Particular emphasis should be placed on their value to man:

1. As destroyers of injurious insects.
2. As the source of supply of useful materials, including materials for clothing, food, furniture, and ornaments.
3. As beasts of burden.

Animals Harmful to Man.

Cut-worm, potato beetle, cabbage worm, leaf rollers, plant lice, gypsy moth, coddling moth, beetles, tent caterpillars, canker worms, cloth moths, cockroach, flies, bedbugs, ants, mosquitoes, snails, slugs, rats, mice, etc. Particular emphasis should be placed upon their injuries to man; harmful stages; extermination; work of the government in destroying pests.

Field Trip.

Purpose: To study how soil is made.

State to the pupils that it is the intention to take a field excursion for the purpose of studying how soils are made, and that the field trip will be along the bed of a little stream or creek, starting in the lower valley and following the stream towards its source on higher ground.

Have pupils take tablet or note book and copy the following as it is written on the blackboard.

Things to Observe.

Where (near the source or toward the mouth) do you find the bed of the stream covered mostly with sand? Where mostly with rounded rocks or gravel? Where mostly with large flat, jagged rocks?

Notice holes or grooves worn in rocks.

Try to find rocks which have been split open by freezing and thawing.

Look for roots of trees which have grown in rock crevices and have split them open. Find stones that are covered with mosses and lichens. Have the pupils scrape off the lichens from the rock and note the dissolving effect which the roots have had upon the rock's surface.

Notice places where roots or sods have kept the soil from washing away.

Have some of the boys collect samples (1) of the rounded-off stones or gravel; (2) a sample of sand; (3) sample of the extremely fine sand mixed with decaying leaves, etc., or ordinary mud; (4) samples of the different soils found on the trip.

Keep the pupils near you on the trip and when the stream is reached proceed rather slowly up stream in order to observe closely

By judicious questioning draw attention to the points which are to be observed, always giving opportunity for the pupils to make the discoveries themselves if possible.

As each point is noted have the pupils check it off on their list of things to be observed.

The following questions may be asked as the walk proceeds or may be saved until the following day:

1. What means do farmers employ to prevent their hillside fields from being washed?

2. Do tree and grass-covered hills wash as badly as bare cultivated hill? Why?

3. Name all the ways in which nature has broken the rocks down into fine sand.

4. Does very fine sand make good soil? What must be mixed with it before it is good soil?

5. What must be mixed with clay soil to make a loam soil?

Upon returning to the school house the specimens may be labeled and placed upon the specimen shelf.

The language lesson for the following day may consist of compositions on either "Our Walk Along the Stream," or "How Soil is Formed," and the various points observed during the trip must be spoken of in the composition. The compositions may be made into booklet form with attractive covers and perhaps illustrated with pasted clippings from papers or magazines. When so prepared they make very attractive exhibit material.

Spring.

The Home and School Garden: The school garden is the laboratory of nature study. In it almost every phase of nature study can find a place. It may be made a source of delight to the pupils.

The next best thing is to have the home garden. It is possible in every school if the school lasts till April. Have the children go home and make the same kind of garden as at school. It may be on a larger scale.

The teacher should go to the homes and see them.

Reward those who have the best gardens.

Many idle children might be kept busy and happy at home in the garden.

Children should be taught to garden. When grown they will have the garden habit.

There can be no objection made to the garden from the standpoint of health, finance, harmony, or pleasure.

Organize corn and tomato clubs, and prepare to have the work carried out among the boys and girls during the summer.

Prepare for a garden exhibit at the beginning of school next fall.

GEOGRAPHY.

Introduction.

Geography is the study of the earth as the home of man. From it we learn how man adjusts himself to his environment; the manner in which he use the resources which nature offers him for the purpose of gaining a livelihood; the intelligence which he uses in order to use these advantages most effectively for the good of himself and those dependent upon him; the interdependence of men, increasing steadily with the advance of civilization, and the laws which control these processes.

Geography is also a gateway to the sciences, such as agriculture, geology, botany, chemistry and astronomy. Through its study, we are led out into that vast field of resources upon which these subjects are based, and a knowledge of which so vitally affects the habits and industries and, to a very large extent, determines the trend of thought of the races of men.

By giving students a knowledge of location of places of common interest, directions, distances, and maps, Geography acts as a key of understanding for much of our daily reading and intercourse. This important contribution of the subject should not be under-estimated.

Teachers should therefore especially emphasize the value of this subject, and be not content in presenting it to the pupils unless it is done thoroughly and well.

FOURTH GRADE.

Outline (First Half Year).

Method: No book is to be used. The knowledge in this grade is to be gained from actual observations in the region of the home.

Purpose: To furnish the child through **observation** and **experience** with such **fundamental** ideas as will help him to form correct notions of the countries or regions which he has not seen.

Seasons.

Observations: Beginning in September with the autumnal equinox, a series of weekly or monthly observations should be started and carried on through the year with the purpose of determining: (1) Time of sunrise and sunset, with varying lengths of day and night. (2) The altitude of the sun at mid-day, or angle of sun's rays as shown by the length of shadow by a vertical post.

A record should be kept of these observations. Special care should be taken to make accurate observations on the vernal and autumnal equinoxes (March 21st and September 22nd), and the winter and summer solstices (December 21st and June 22nd).

While making these observations, the directions, north, south, east and west should be taught. The expressions "up" for north and "down" for south

should never be used. As the observations proceed, the pupil will see that the sun rises exactly in the east and sets exactly in the west only at the time of the equinoxes. He should learn to think of north as the direction in which the shadow of a vertical post falls at noon. On many occasions and from many places about the school premises pupils should be asked to point to directions.

At the end of the school year these observations should be summarized and a conclusion reached as to the cause of the change of seasons. The pupil should be able to see that summer is warmer than winter because the days are longer, the nights shorter, and the sun's rays nearer vertical, and that change of seasons is due to the changing length of day and night and the changing angle of the sun's rays. That vertical rays heat more than slanting rays will usually be demonstrated by a single day's observation of the difference in temperature between sunrise and noon. The above explanation of seasons is the only one that can be made in the child's experience and the only one that should be attempted in this grade.

Weather Observations.

Parallel with the above observations, a simple record of weather observations should be kept. This should include the condition of the sky, temperature, precipitation, direction of wind, etc., for each day in the school year.

Remarks: Under remarks a record of many interesting phenomena may be kept, such as first snow, first robin, wild geese flying north, first violet, etc.

Aim to associate wind directions with condition of the sky, temperature, moisture and rainfall, and to determine what winds give us clearest skies and coolest weather; or warmer temperature, cloudy skies and rain, or our heavy snow storms.

The Surface of Land.

These are to be studied through field trips and excursions, each trip or excursion being carefully planned in advance by the teacher.

Study the slopes between the school house and the pupils' homes. Have the children decide which is easiest to travel over. Hence the relation of slopes to roads.

Study the view to be seen from the school house windows, or in the nearest playground or field. Emphasize irregularity of surface.

Learn the names of the local features. Give terms like hill, plain, valley, gully, gorge or canyon, divide, alluvial fan, after the form has been studied.

Show as fully as possible how people depend upon slopes. Study the location of towns with reference to slopes. Select certain buildings and study their location, as the church on a hill, a store where roads meet.

Study distribution of trees and note the relation of occupations to slopes in local landscapes.

As far as possible, give illustrations of variety of forms from your home state by means of photographs to be found in railroad time tables and folders. Show views from other illustrations to bring out the point that similar forms are found in other distant regions.

Have the children summarize the local landscape features by means of definitions made by themselves.

The Water on the Surface of the Land.

Note the necessity of water for plants, animals and people. Tell how drinking water is obtained in your home locality. Explain wells, or springs, or city water supply.

Study the water of a stream and note the sediment contained. Discuss the origin of sediment.

Follow changes of surface form due to running water; study a local valley as to width, depth, quality of slope; study the rapidity of flow on different slopes and note falls, rapids, and lakes, if any are to be seen in the neighborhood.

Study parts of a stream and develop definitions associated with local water courses and valleys.

Study uses of water in commerce, manufacturing, and irrigation.

The Soils.

Observe the weathering of rocks, the crumbling banks, the rusting of tools to show how rocks decay and form soil.

Have a box of soil in the room and study its fineness, color, feeling, and the way it takes up water.

Test the different kinds of soil by having the children plant seeds and compare results.

If possible, study a soil section out of doors. Notice the layers of soil and subsoil in excavations and railway cuts.

Show how soil is necessary to plants and study effects of running water on soils.

Discuss means of retaining the soil on slopes.

Occupations.

Find out the leading industries of the locality, their location and importance.

Study the need of the division of labor in families and communities. Have the pupils work out the number of different occupations that contribute to their needs.

Illustrate agriculture by window gardening or school plots. Make a study of the various crops raised in the neighborhood, the soil upon which they grow, the manner of harvesting these crops and the uses made of them.

Illustrate grazing by observation of cattle, sheep or horses. Determine what lands are suitable for grazing and what grasses are best.

Study manufacturing in any factory to be found in the neighborhood. The grist mill, saw mill, creamery, brick yard, and foundry, are typical in that the manufacturing plant is stationary and the raw material must be transported to the power or the factory.

Lead the pupils to see that the conditions necessary for manufacturing are: (1) Power, such as water power, steam, gasoline and electricity. (2) Raw material. (3) Food supply for employees. (4) Labor. (5) Commercial facilities, wagons, freight cars or vessels which bring raw material to the factory and take away the manufactured product.

Bring out the advantage of money as representing wealth and as an aid to commerce.

Transportation and Commerce.

Study local trade. Lead the pupils to see that commerce grows out of diversity of needs which in turn grows largely out of diversity of occupations.

Show how transportation involves distance and direction. Have the pupils to prepare lists of raw materials and manufactured articles exported from and imported into the neighborhood.

Have the pupils find out the kind of plows, buggies, binders, sewing machines, and other articles of farm and household use, and where they are made. In this way the connection may be made between the home section and distant sections.

Study means of transportation and the effect of good roads as an aid to commerce and happier living.

Products of the World Brought to us Through Commerce.

Have the children make lists of products used by them that come from a distance.

Tell the children stories about some of the distant regions of the earth that supply them with necessities, such as coffee from Brazil, tea from China and Japan, and rubber from the Amazon valley.

Rice, bananas, coffee, cocoa, valuable woods, rubber, and quinine will show the relation of home locality to southern North America and northern South America.

H des and meat products will illustrate our relation to southern South America; furs, the colder parts of North America and Eurasia; olives, olive oil, cheese, embroidery, and linen from Europe; silk, spices, pepper, tea, and rugs from Asia; ivory and diamonds from Africa; and wool from Australia will show the relations to these countries.

Select the product the children have seen or heard about. Make a brief study of the lives of the people, of climate and of plant and animal life in each region considered. Compare with home locality.

The pupils have found that the home region is dependent upon, and contributes to, many other regions in furnishing man with food, clothing, shelter, and the other necessities of life. **It is because of this mutual dependence that these distant regions should be known.**

Maps and Mapping.

The ability to read and use a map is of permanent value to the pupil. A map is not a picture. The features presented on it are represented by means of symbols which often have no resemblance to the features themselves. The map work in this grade should make the child familiar with: (1) The things and geographical features themselves. (2) The use of symbols by which these features are represented upon maps. The pupil should not be required to use a symbol in mapping until he has become familiar through observation, experience or pictures, with the things symbolized.

The first maps made by the child should be of things and places so familiar to him that neither time nor attention need be spent upon the things themselves but upon the idea of representing them by symbols. A map or plan of the school room or school yard should first be drawn. From the first let the maps be drawn to a scale—a half or quarter of an inch on the paper representing a foot, yard, or rod on the region mapped. As the observation work is extended

so as to include streams, valleys, hills, alluvial fans, etc., the mapping of these various features should be extended until the child is familiar not only with the region and its map, but with the general idea of mapping. The idea of direction should be introduced early. Maps drawn in this grade should always contain some symbol to indicate directions, such as an arrow which points north, or some other symbol. It is not necessary to have pupils make maps with north at the top, but it is necessary that north be indicated by some symbol, so that the pupil may early acquire the habit of looking for the direction symbols on every map. When desirable use colors to distinguish features on the map.

(Second Half Year.)

I. Globe study, three weeks.
II. Transition from globe to map.
III. Elementary textbook taken up and completed to page 98.
IV. Regional study of North America and the United States.

I. Globe study.

(1) Form and size of the earth.

By enlarging the conception given by the globe, try to give some idea of the immense ball on which we live, how it is composed of rock, mantled over with loose material and soil of varying depth; that immense depressions are filled with water forming oceans and separating the larger land masses or continents. Instead of having diameter and circumference committed to memory as such, have the pupils u e as data for simple problems, such as "How long would it take a man to travel around the earth on the equator, traveling at an average rate of ten miles an hour?" At best the globe must stand as a symbol for ideas and facts too large for the understanding of the child.

(2) Motions of the earth.

(a) Revolution around the sun. Little can be done to make this motion mean much to the child because he cannot experience it. He may learn that it is the time required to make one such revolution that determines the length of one year. This revolution is only one of four or five factors which, combined, produce seasons. Review the observations on seasons made in the first half year and the conclusions thus reached.

(b) Rotation and some of its consequences.

(c) Succession of day and night.

(d) Directions north, south, east and west, are due to rotation. North is toward the north pole. The north pole is one end of the axis, and the axis is due to ro ation.

(e) Show how directions are indicated on the globe by meridians and parallels; the former run north and south, the latter run east and west. Give much drill in using these direction symbols.

(f) Locations of places on the earth. Show how meridians are numbered east and west from a given prime meridian, and the parallels, nor h and sourth from the equator, and how from numbers on the lines which intersect at a given place it is possible to tell the location of places on the globe. Give much drill in thus locating places until the child can readily tell the approximate latitude and longitude of any point on the globe.

(3) Distribution of land and water, continents and oceans.

(a) Position of continents on the globe, their direction from each other, and the bounding and intervening oceans. Explain these great land and water bodies to the child before introducing their symbols. The idea should always come before its symbol.

(b) General shape and form of continents, with a few of the most important capes, peninsulas, islands, seas, gulfs and bays.

(c) Relative size of continents as estimated from the globe.

(4) Climatic conditions of the earth.

Review what the pupil has learned in the First Half Year as to the relation of high sun and low sun to the warm temperatures of summer and the cold ones of winter. Let the teacher go in imagination with the class to the equator and tell them where the sun rises and sets and where it is at noon at various times during the year, emphasizing the steep rays which always fall at that parallel so that the pupils from their own experience with steep rays and a high sun ought to infer the hot temperature of this region. Then go with them to the "Land of the Midnight Sun," with its slanting rays and low sun and let them infer the conditions of temperature there. Locate the doldrum belt near the equator with its hot, moist climate, with its daily rains. Contrast the rainy belt with the hot, dry regions on either side, over which the trade winds blow making such deserts as the Sahara of Africa and the Kalahara of Asia. Now contrast with the uniformly hot, dry climate of the deserts or the uniformly hot and moist climate of the doldrum belt, the variable weather of the temperate zone as it has been observed by the child.

II. Transition from globe to map.

The pupil should have become so familiar with the globe that they are able

(a) To locate any place in approximately its correct latitude and longitude.

(b) To tell directions on the globe.

(c) To know at a glance the various continents from their shape and outline.

It now becomes necessary to represent various features of surface and drainage, etc., with greater detail than can be done on the globe, so that the map must be introduced. In order that the pupils do not form wrong conceptions, owing to the flat surface upon which the map is made, the use of the sand table is recommended. Here the relief form may be represented and the concept transferred to the map. When the pupil knows the meaning of all the various symbols, can tell directions on the map, locate places when their latitude and longitude are given, and knows how to use the scale, he is then prepared to read and study the map. This should be done under the very careful direction of the teacher.

III. Regional Geography. (See IV above.)

Outline for Continental Study of North America.

I. Position. Consult and locate on globe.

(1) In zones, pp. 24, 25.

(2) In hemispheres, p. 25.

(3) In relation to bordering waters, p. 41.

(4) In relation to other continents, p. 20.

II. Form.

(1) General: roughly triangular, pp. 40, 41.

(2) Actual, determined by:

(a) Its more important indentations, pp. 40, 41, 43.

(b) Its more important prolongations, pp. 40, 41, 43.

III. Size.

(1) As compared with other continents. This should be done only approximately. No area in square miles is to be given.

(2) As shown by the fact that North America stretches entirely across the temperate zone and reaches into the frigid zone of the north and the torrid zone of the south.

(3) How long would it take to journey in various directions across it at different rates? Give problems to be solved.

IV. Relief. (Data to be secured largely from maps.)

(1) Highlands.

Rocky Mountain Highlands, pp. 40, 41, 43.

Appalachian Highlands, pp. 40, 41, 43.

(2) Lowlands.

Plains.

Great Central Plain, pp. 40, 41, 43.

Atlantic Coastal Plain, pp. 40, 41, 43.

Gulf Coastal Plain, pp. 40, 41, 43.

V. Drainage.

Gulf drainage, pp. 40, 41, 43.

Atlantic drainage, pp. 40, 41, 43.

Pacific drainage, pp. 40, 41, 43.

VI. Distribution of people. Where dense, where sparse, as determined by the occupations of the people and the food producing capacities of the various sections. Supplement text.

VII. Political division, p. 43.

(1) United States and Alaska.

(2) Dominion of Canada.

(3) Mexico.

(4) Central America.

The order of topics in the study of North America is followed in the study of the United States as a whole.

VIII. Relief.

This includes a study of the differences in character, elevations and extent between the two great highland masses. In this connection the chief ranges should be named, located and characterized.

IX. Drainage.

Chief drainage lines and their relation to relief forms. Drill most upon the streams which are commercially important.

X. Climate.

Show the position of the United States on the globe. It will be seen that the northern part is near the frigid zone. Locate the home state and a city or village nearest to the school. Have the children recall the usual weather conditions during the summer and winter in their own home region. Show pictures of southern scenes and let the children tell how the northern and southern seasons differ. The children, through their nature study should be familiar with the process of evaporation and condensation of moisture.

Explain how moisture evaporates over the sea and is borne into the interior to be condensed and fall as rain over the land. Show upon maps the distribution of rainfall in the United States. Have pupils locate on wall maps regions of

(1) Abundant rainfall.

(a) Where the rain is well distributed and where the temperature is warm enough to produce abundant vegetation.

(b) Where the rain is abundant in amount and in a warm region, but where not well distributed, resulting in arid or semi-arid wastes.

(c) Where the rain is abundant, but in cold regions, resulting in snow.

(2) Medium rainfall, enough so that crops will grow.

(3) Slight rainfall, result, deserts.

XI. Possibilities of occupation.

As a result of the relief, temperature and rainfall, it will be found that certain parts of the United States are suited to certain industries, so that it is possible to divide the states into groups in which the same industries are carried on. In this way locate:

(1) The chief agricultu al and grazing sections and their chief productions.

(2) The mining regions and the most important minerals.

(3) The lumbering regions and the most important trees.

(4) The manufacturing regions.

(5) The fishing grounds and the chief catches.

XII. States.

Give the pupils an idea of what is meant by a state. Point out physical regions and state groups and have them identify these groups by their leading industries.

Only a few of the leading industrial and commercial cities should be studied and these should be closely identified with the industrial region in which they are situated and with their leading productions.

Alaska should be considered with the United States.

Merrill's Geographic Readers, adopted for supplementary use, will be useful in the fourth and fifth grades. The series includes four books as follows: Book I, Home Geography; Book II, Our Occupations; Book III, Industries of Man; Book IV, Our Country.

FIFTH GRADE.

Outline (First Half Year).

The first half of the year should be spent upon the following countries:

South America, Europe, Asia, Africa, Australia. Give much attention to South America.

The chief points to be covered are (1) Position, (2) Form, (3) Size, (4) Relief, (5) Drainage, (6) Climate, (7) Occupations and industrial regions, (8) Centers of population and chief cities.

Simplify the work. Confine it to the study of geog aphy. Do not go into too many details.

Outline (Second Half Year.)

West Virginia and the first sixty pages of Frye's Higher Geography.

The study of the state should be thorough. It is more easily comprehended, both physically and industrially, than more distant countries; even more so than distant parts of the United States.

Outline for West Virginia.

I. Position.
II. Form.
III. Size as indicated by (1) Latitude, (2) Distance by scale of miles east and west, north and south, (3) Area as compared with other states.
IV. Relief.
    (1) The Allegheny Mountains.
    (2) The plateau section.
    (3) The rounded hills.
V. Drainage. The sources of rivers, their courses and directions.
    (1) Potomac System.
    (2) Ohio System.
VI. Climate.
VII. Soils, uplands and flood plains.
VIII. Vegetation.
    (1) The forests and the lumber and paper industries.
    (2) The general diversified agriculture of the state.
    (3) The grazing regions and the cattle industry.
    (4) The market gardening and truck raising regions.
IX. Animal life.
X. Mineral wealth and mining industries.
XI. Manufacturing.
XII. Distribution of population.
XIII. Transportation and trade routes.

First sixty pages of Frye's Higher Geography. If the work has been well done in the fourth grade this work can be quickly covered. It will be mostly a review with more intensive work on seasons, winds and rainfall, landforms, and physical conditions.

SIXTH GRADE.

South America, Europe, North America, the United States and West Virginia, should have been studied in the order mentioned, with special reference to their great industries and the physical and social conditions influencing them.

Colonies, no matter where located, if important enough to be noted, are to be studied in connection with the mother country. The commercial relations existing between the home countries and their several colonies are to be emphasized.

Begin text on page 137. After the study of South America and Europe as indicated above, return to page 61 and make an intensive study of the United States and West Virginia.

General Outline.

I. Position.
    (1) Relative.
    (2) Absolute.
II. Form.
    (1) Relative.

(2) Actual.
(a) As shown by map.
(b) Indentations.
(c) Prolongations.
(3) Continental shelf.

III. Size.
(1) Relative.
(a) Compared with other continents.
(b) In relation to oceans.
(c) What part of the whole earth.
(2) Actual.
(a) Extreme breadth and length of time it takes to make the journey.
(b) Number of square miles.

IV. Relief. (Data secured largely from map.)
(1) Highlands including plateaus.
(a) Position.
(b) Extent.
(c) Elevation.
(d) General character.
(e) Arrangement.
(2) Relations of the highlands to the great continental slopes, great drainage systems, interior basins and the nature of coast lines.
(3) Lowlands.
(a) Position.
(b) Extent.
(c) Structure.
(d) Kinds.

V. Climate.
(1) As indicated by angle of sun's rays or latitude.
(2) As modified by elevation.
(3) As influenced by winds from ocean.
(4) As shown by isothermal map.

VI. Rainfall.
(1) Region of modern and heavy rainfall.
(2) Influence of highlands upon winds and rainfall.
(3) Location of rainless areas and reason therefor.

VII. Drainage.
(1) Chief rivers and their relation to the landforms which they have been instrumental in creating.
(2) Lakes.
(a) Fresh water lakes.
(b) Salt water lakes.

VIII. Soil.
(1) Residual.
(2) Transported.

IX. Zones of vegetation as dependent upon
(1) Temperature as determined by latitude, altitude, proximity to water, and influence of ocean currents.
(2) Rainfall.
(3) Character of the soil.

X. Zones of waste as dependent upon
  (1) Lack of moisture.
  (2) Altitude.
  (3) Latitude.
  (4) Too much moisture.
    (a) Swamp.
    (b) Jungle.
    (c) Bad lands.
  (5) Poor soil.

XI. Distribution of animal life.

XII. Distribution of mineral resources.

XIII. Distribution of population as dependent upon possibilities of occupation, resources, supply and demand, and commercial advantages.

XIV. Development and location of centers of population as showing the needs of the people for commercial centers, manufacturing centers, and government centers.

XV. Development of commercial and trade routes, resulting from the effort to obtain the products and the patronage of the other people of the world. Harbors, river systems, and railways.

XVI. Political divisions and government.

Special Topics.

The following list of topics is suitable for development and comparison with like conditions in other lands and should lead to general truths. They will furnish material for reviews of other places on the globe and should be studied in connection with the geography of the United States.

I. **Northeastern Section and North Central Section.**
  (1) In a cotton factory at Lowell, Mass.
  (2) The arsenal and gun factory at Springfield.
  (3) The woolen factories at Fall River.
  (4) Watches and watch makers at Waltham.
  (5) In a shoe factory at Lynn.
  (6) Granite quarries of New Hampshire.
  (7) Slate quarries of Bangor.
  (8) Among the light houses along the coast.
  (9) New York Harbor and Ellis Island; landing of immigrants.
  (10) Garden farming in New Jersey.
  (11) In a West Virginia coal mine.
  (12) A blast furnace at Pittsburgh.
  (13) The oil fields of West Virginia and Pennsylvania.
  (14) Orchards of West Virginia, Maryland and Delaware.
  (15) Oyster beds of the Chesapeake.
  (16) Fisheries of the Atlantic coast.
  (17) Tobacco culture of Virginia and Kentucky.
  (18) Lumber industries of Maine and Michigan.
  (19) Prairies of Illinois.
  (20) Chicago as a trade center.
  (21) Copper mines of Michigan and lead mines of Wisconsin.
  (22) The wheat fields of Minnesota and the Dakotas.
  (23) The flouring mills of Minneapolis.

(24) Corn and live stock of Indiana and Iowa.
(25) Natural gas and its uses.
(26) Rubber manufacturing in Akron, Ohio.
(27) Automobile industry o Detroit.

II. **Southern Section.**

(1) The rice fields of the Carolinas.
(2) Fruit growing in Florida.
(3 Cotton culture in Georgia and Mississippi.
(4) Sugar plantation in Louisiana.
(5) A cattle ranch in Texas.
(6) Iron smelting in Birmingham.

III. **Plateau Section.**

(1 Farming by irrigation.
(2) Mining camp in Colorado.
(3) Gold and silver smelting at Denver.
(4) A trip to Yellowstone Park.
(5) Fruits and flowers of California.
(6) Salmon fishing on the Columbia river.
(7) The lumber industry of the northwest.

Note: (The above list of topics is not all-inclusive by any means. It should suggest to the live teacher many others, both at home and abroad, which will prove very valuable to the pupils in giving them better ideas of the great manufacturing, agricultural, mining and commercial industries of the world.)

The school library should contain several of Carpenter's Geographical Readers and some interesting books of travel. These books and the government and commercial bulletins that may be obtained free should be used in the intensive study of special topics.

HISTORY AND CIVICS.

One of the chief duties of the public schools, possibly the chief duty, is the production of an intelligent, right-hearted, stalwart, and active citizenship. The present posture of affairs is emphasizing this. It becomes increasingly evident that the value of a civilization is measured not only by its material wealth and industrial and scientific efficiency, but also by its ideals and the institutions and processes that embody them. Our democracy maintains schools in order that democracy herself and democracy's blessings may be maintained. The work of producing this citizenship for a democracy should be carried out through all subjects taught in the schools. But it is chiefly through the social sciences, which in elementary schools are represented by history and civics and geography, that this training is most directly given.

HISTORY

With this main purpose in mind, the aim of the course in history will be to enable the boys and girls to acquire a sympathetic understanding and appreciation of American ideals and institutions, and thus to understand better the community of which they are members, and to appreciate their relations to this community.

Care should therefore be taken not to treat history as if a knowledge of the events recorded were the end to be reached. These events should constantly be made to show their relations to the present. The value of history for our students is not that it "trains the memory" or "increases our information", but that it gives a proper perspective and helps to explain the present.

In grades one to three there will be no text in the hands of the pupils and no separate classes in history. In fact, the work should be here presented in correlation with reading, story-telling and language work. It should be the aim of the work of these grades to form a background for the later study. This can best be accomplished by stories which deal with peoples and conditions in primitive or early life. These stories will tell in a simple way of the lives of the Eskimo, the Indian, etc. They will tell how these peoples get their food and clothing and how they house themselves. These stories of the hunt and chase, of herding and primitive agriculture and of the later trade and travel and discovery can be made intensely interesting. Especially is this true, if the stories deal with the lives of the children of these peoples. There is a wealth of material published for this purpose which can be used as well for supplementary reading. The following may be consulted for lists of stories: Talkington's "How to Teach History and Civics in the Grades"; McMurry's "Special Method in History"; "Report of Committee of Eight", etc.

National holidays, celebrations, and the like will furnish occasions for the introduction, in simple form, of the stories of their origin and meaning. Because of the relationship of our history to that of other lands and times, it is well to introduce as early as the third grade stories of such world characters as Joseph, Moses, David, Ulysses, Alexander, Horatius, William Tell, Roland, Canute, Alfred the Great, Robert Bruce, Joan of Arc, etc.

Fourth Grade

The story of our country is presented in this grade through the biographies of many of the prominent men of our country. These biographies are classified under different heads so that the children can understand the part played by each man. The story element here predominates over the cause and effect idea of history. The principal facts in the history of a period are grouped about the life of some prominent men of the time. It is the concrete and dramatic that takes hold of the interest of the child. The children will appreciate and approximate in their own lives the qualities they admire in others. Have them note the strong traits of character in these men. Train the pupils in topical recitations both oral and written, being careful that the stories are told in good language of the pupil's own choosing.

Encourage inquiry into local history,—naming of districts, settlements, the local railroad, the town and any other things that may be of interest.

Textbook: Mace's Beginners' History, pp.1-202.

Supplementary: Makers of American History and Story of Our Country, Book 1.

Fifth Grade

The work of this year follows the directions of that of the Fourth grade, with a bit wider and deeper view of the meaning of the events to which the biography is related. The battle of the hero against the conditions which hinder him and his final victory bring out the moral qualities and dramatic elements in the hero's life. In these qualities, which we wish to arouse in the pupil, we find the real justification of elementary history in the schools and the reason that it is made biographical.

Textbook: Mace's Beginners' History, pp. 202-389.

Supplementary: Makers of American History and Story of Our Country, Book II.

Sixth Grade

The purpose of introducing the pupils to European history is to give them in simple story form those things in the history of early Europe which have come to America and out of which, in part, America is built. There should be a genuine study of the way the people of old Europe lived and what they did. These ways they carried to Spain, France, Holland and England and in turn the people of these countries carried them to America. This story of the growth of our civilization when told in simple way and without attempt to burden the story with unpronounceable names, is full of romance and consequent interest to the boys and girls. It helps to explain, also, the struggles of the nations for the control of America, and the life and institutions which they built here.

Textbook: Mace-Tanner's Old Europe and Young America. Study the entire book in this grade.

Supplementary: Story of the Old World.

CIVICS

If, as stated above, one of the chief tasks of the public schools is the production of a good American citizenship, then it is incumbent upon the teacher to work

directly toward this end. The specific aims should be: (1) to impress upon the children that they are members of several social groups and therefore responsible in a measure for what these groups are; (2) to cultivate habits of cleanliness, order, co-operation, service, and obedience to law; (3) to emphasize the close and double relation between the welfare of the individual and the welfare of home and society; (4) to inculcate habits of thrift and industry; and (5) to develop political intelligence and its exercise. This can be accomplished partly by giving information to the boys and girls, but chiefly by bringing them into a sympathetic understanding of the everyday work and civic relations of the members of the community and by giving to them opportunities for developing the habit of mutual helpfulness and co-operation. The formation of Thrift Clubs, Junior Red Cross societies, and like organizations should be encouraged not only for the primary benefit to the causes represented by them, but for the resultant civic training of the children. The socialized recitation, debating club, the corn club, canning club, social center meetings, the general discipline of school, the playground are but a few of the many agencies that furnish fertile opportunities for this work.

Thus, it is not the purpose to make Civics a separate subject of intruction, or to adopt a textbook for the elementary grades, but rather to correlate it with all subjects, emphasizing their civic side, and by taking advantage of the numberless opportunities that arise to drive home the lessons. In that way each teacher can do her bit in a way that possibly cannot be done so well by anyone else.

In a general way the work should have the following scope.

First Grade

The family—what parents do for children. How children may show gratitude. Care of furniture, toys, clothing. Respect for age.

Second Grade

The home and the community—how each serves the other. Community servants of the home—the milkman, the postman, the garbage man. What these servants do, the importance of their work. Who sends them? Why? How we can help them. How the home serves the community—care of premises, conduct toward neighbors, conduct in stores and public places.

Third Grade

The home and the school. Habits that apply to each—obedience, service, etc. Care of property—furniture, school supplies. Appearance of home and school—yard, street, alley, etc. The home-and-school community—co-operation for beauty and protection. Care of lawns, trees, fences, public property. Courtesy to strangers.

Fourth Grade

Stories of the growth of the following and how each serves the community: public schools, library, postoffice, street railways, hospitals, parks, fire and police departments, city hall, court house, state house. Your city an industrial center—what made it so? Sources of raw material, destination of manufactured products. Sources of food and clothing. Means of transportation.

Fifth Grade

Waste, saving, and wise expenditure in the home—foods, clothing, furniture, light, fuel, Christmas gifts, etc. Keep in repair—fences, buildings, doors, gates, etc. Saving of doctor's bills by care of health. Discuss—Does it pay to buy cheap goods? To have cheap workmen? Cultivation of gardens for economy's sake. Advantage of home ownership.

Sixth Grade

Ordinances and laws—On removal of garbage, crossing of streets, providing for pure water and pure foods, school attendance and working certificates. Individual responsibility—to self, to the weak and needy, to the home, class, school, city, state, country. Civic growth of city—water supply, lighting and heating, improved streets and boulevards, parks, public buildings. How your city, your state, and your country protect you—your character, your rights, your property and your life and the obligation you owe as a result. The supreme lesson: to be a good citizen—a lady or a gentleman—at all times and at all places.

PHYSIOLOGY.

FIRST, SECOND, THIRD AND FOURTH GRADES

Time: Fifteen minutes once a week at the nature study period.

Course: Simple facts concerning the body, its growth and care, divided into topics as follows:

Note: Teachers wishing information on these topics will find at the end of each topic the chapter or page designated in Hygiene and Sanitation—the adopted text.

The Body

Composed of flesh, nerves, and bones. Location, name and use of the chief parts and organs—head, brain, trunk, heart, lungs, stomach, etc.

Principal uses are motion, respiration, nutrition, excretion and sensations, or to enable us to move, breathe, eat in order to grow, to cast off impurities, and to hear, see, feel and think. Chapter II Primer of Hygiene.

The Growth of the Body

In order that the body may grow it needs good food, pure air, pure water, exercise and rest.

Develop these in the order given and contrast good and bad foods, etc., so as to make clear to the child the necessity of each. Chapter III Primer of Hygiene.

General Note to the Teacher

Though the work is here definitely outlined it does not preclude the teacher's giving hygienic instruction when the opportunity presents itself.

Examples: Headache caused by late hours. A sick stomach caused by over-eating.

Should a pupil come to school with wet feet, the teacher should not only see that this condition is removed, but show the bad effects of same. Or,

Should a pupil accidentally cut or tear his flesh, the teacher should not only be able to dress the wound properly, but make this an occasion for an object lesson for the school.

Food and Its Uses to the Body

Talk about the necessity of food for growth and repair; cause of hunger; digestion, absorption and assimilation of food; how to aid digestion; importance of such foods as milk, eggs, bread and butter, meat, fruits, vegetables, salads, oils and nuts; dangers of tea, coffee and alcoholic drinks; unsanitary soda fountain and drinks.

Hygiene; need of eating slowly and chewing thoroughly; why we should not over-eat, especially of such foods as pie, cake, candy, pickles, etc., of green or decayed fruit, of tainted and adulterated foods; regularity of eating, sleeping,

studying, movement of the intestines to get rid of waste matter, neglect of which may cause appendicitis and other intestinal trouble. Chapter III and VIII, Primer of Hygiene.

Care and Preparation of Food

The Care of Milk: Why milk delivered in bottles is cleaner than milk delivered in cans; why it should be cooled and kept cool; need for cleanliness at the dairy; how to keep it clean and pure at home; how eggs, butter, meat, bread, berries and fruits should be handled and kept; why food is cooked; why fried foods are not the best; why simply prepared foods are best. Chapter V and VII, Primer of Hygiene.

Our Meals and When to Eat

Breakfast: Fresh fruit (apple, orange, bananas), some cereal with milk or cream, eggs, toast and a glass of milk; bread and coffee are not sufficient, the latter being injurious to children.

Noon Meal: Lettuce, egg or meat sandwiches, fruits, nuts, milk, chocolate or cheese make an appetizing and nutritious lunch; a lunch containing much pie, cake, pickles, etc., is not a good one.

Evening Meal: Soup, meat or fish, bread, vegetables, fruit, with ices or light pudding for dessert, make an excellent dinner.

Strong, healthy and beautiful bodies depend largely upon the right choice of food at daily meals.

Do not eat between meals to keep from getting hungry. Wait until you are hungry.

Necessity for clean face and hands when eating.

How to care for the dishes; proper method of washing dishes. Chapters V and VIII, Primer of Hygiene, and chapter XXX Primer of Sanitation.

Pure Air and Its Use to the Body

Why we need a constant supply of air; out-door air the best; ways of ventilating occupied rooms to secure pur air; why the air in an unventilated room is not pure; the need of a thermometer; why the heated room should be kept at from 65 to 70 degrees; why air should not be allowed to become too dry.

The need of keeping the windows of one's sleeping room open at night. Pure cool air is a great aid in keeping good health and good appearance.

Breathing

Correct position best for breathing and for good appearance as well; why breathe through the nose and keep both nostrils open; the value of exercise to improve posture and increase lung capacity; harm from tight clothing; why over-exertion, such as long runs, and violent exercise is not good for the growing child. Chapters X and XI, Primer of Hygiene.

Water and Its Use to the Body

Necessity for pure water; why the body needs plenty of water; when drinking water should be boiled; why drinking much at meals is not advisable; why it is

needful to bathe and when; use of soap; hot water bottle and its use in relieving pain; necessity for individual drinking cups. Chapter XX, Primer of Sanitation.

Care of the Body

Uses of the skin, hair and finger nails and care of each. Chapter XV, Primer of Hygiene.

Teeth: Value in preparing food for digestion; causes and cure of irregular teeth; causes of decay; when and how to clean the teeth; necessity for taking care of the temporary teeth; the first permanent teeth; why the teeth should be examined by the dentist and filling done at least twice a year. Chapter IX, Primer of Hygiene.

Eyes: Ways of protecting the eyes; evidences of the need of glasses; why spectacles are preferable to glasses; care of glasses; examine for trachoma. Chapter XXIV, Primer of Hygiene.

Ears: Care of, common injuries to; signs of defective hearing; why consult a physician when symptoms are recognized. Chapter XXV, Primer of Hygiene.

Clothing: Kinds and advantages of each; differences for cold and warm weather; need for underclothing; kinds and advantages; need for rubbers in wet weather, should not be kept on while indoors; importance of keeping the body dry and free from colds. Chapter XVI, Primer of Hygiene.

Cleanliness: Necessity for clean homes, clean yards, clean streets; why rugs are better than carpets; advantages of vacuum cleaner and moist cloth for dusting; vigorous health the best preventive of any disease; how the house-fly spreads disease and how to combat it; dangers in handling the dirty cat or dirty dog. Chapter XXIX, Primer of Sanitation.

Accidents: What to do in case of cuts, bruises, burns; why cuts should be cleansed and covered; danger of scratching off scab with finger nails; necessity for using clean cloths; possible danger from rusty nails; what to do if clothing catches fire; why boys and girls should learn to swim; dangers from electric wires; danger from dog bites. Chapter XXVI, Primer of Hygiene.

Accidents and Emergencies

In every schoolhouse there should be the following emergency outfit and every teacher should know how to use its contents. The remedies should be placed beyond the reach of anxious children.

4 oz. bottle of camphor.
4 oz. bottle of arnica.
4 oz. bottle of witch hazel.
1 oz. bottle of collodion.
1 pair of sharp scissors.
Package of absorbent cotton.
Roll of clean linen or soft cotton for bandages.
Sheet of surgeon's rubber adhesive plaster.
Needle and thread.

An antiseptic plaster or dressing for a wound may be made as follows: After cleansing the wound thoroughly with **cold** water, put enough of the absorbent cotton over the wound to cover it completely. Drop collodion on the cotton until it is saturated. With the fingers press the cotton gently but firmly upon the wound and let it dry there. This is one of the most satisfactory of antiseptic

plasters. A clean linen or cotton bandage may be wrapped about the wound if it is severe.

Exercise, Rest and Sleep

Exercise: Why needed, kinds and advantages of out-of-door exercise.

Rest and Sleep: Why needed; illness often avoided by taking regular and proper amount of sleep; best time to sleep; amount of sleep; why students should not keep late hours. Chapter XX, Primer of Hygiene.

The joy of health and strength, happiness and satisfaction, ability to look, do, and be our best.

Health and strength the natural result of the wise use of food, air, water, exercise and rest; individual responsibility of clean, pure, healthy bodies. Chapter XXXII, Primer of Sanitation.

Suggestions on Exercise

It is impossible to outline a course on physical exercise within the space allotted here, but it is suggested that the teacher make a special effort to enter into and direct the play of her pupils. Especially should the teacher be prepared to direct the play on rainy and bad days when the pupils must stay within doors. The teacher also needs the exercise. She can do better work together with her pupils after participating in a game that calls into use the muscles of the body.

There are many indoor games which are full of action. See to it that the children get some vigorous play at the recesses and at such other times as the teacher thinks best.

For a complete list of indoor as well as outdoor games with complete instructions for playing, see "Games for the Playground, Home, School and Gymnasium," by Jesse H. Bancroft. Price $1.50. The Macmillan Company, New York. Or, Johnson's "What to Do at Recess." Price 25 cents. Ginn & Co., Boston.

As a rule the calisthenics given in the school room is not enjoyed by the pupils and is of very little benefit to them. Play is the natural exercise for the child. Chapters XVII, XVIII and XXVII, Primer of Hygiene.

Fifth Grade

The Primer of Hygiene should be used in the fifth year. Pupils should have the text book in this and the following grade.

One lesson per week at the period assigned to nature study.

Whenever references are made to parts of the body, or other things which the child may not understand, the teacher should make careful explanations.

Sixth Grade

Primer of Sanitation is the text. First half year, pp. 1-100, second half year, pp. 100-194. One lesson each week.

Care should be taken here, as before, that pupils have an opportunity to see pictures, drawings, diagrams, etc., that will help to make clear the subject matter. When possible bring in objects illustrating the lesson or take the pupils out to observe sanitary or unsanitary conditions. Have the pupils make observations and investigations and make written reports.

The aim is to get the pupil to apply the principles learned so that his health and that of his associates at home and elsewhere will show improvement. Stimulate the desire of the pupil to be well, to apply hygienic principles to his own living, so that it will result in fixed habits of right living.

DRAWING.

The teaching of art in the schools should have two results for the children: (1) the development of a love of the beautiful, and (2) the ability of self-expression. It should teach the child to appreciate the masterpiece, and train him to desire more pleasant surroundings and to do his work more tastefully. Incidentally, it should also train his eye and hand.

The subject should constantly be thought of not as isolated, but as closely correlated with all other subjects in the course of study. It should be supplemented by picture-study.

The course includes: (1) Representation, (2) Construction, and (3) Design. The following suggestions are outlined with the purpose of assisting the teacher in her mission of helping the child to help himself.

(The numbers given refer to pages in the "Applied Arts Drawing Books".)

First Grade

Representation: In plant life observe the simpler types of trees, such as the maple, apple, cedar, poplar. Compare their shapes and proportions; also form and proportion of leaves; and form and color of fruit and vegetables.

Animal drawing should include the general characteristics of animals: shape of body, head, feet, tail, ears, nose.

In drawing the human figure begin with the manikin, or "stick man." In this, proportion of the body and action are represented. Follow with poses illustrating actions, walking, running, jumping. Illustrate games and stories with these illustrations.

Construction: The problems in this grade should involve measuring to the inch. The subjects should be simple articles for the playhouse, to be done in paper folding, without pasting.

Booklets may be tied together and mats woven and folded into hair receivers, handkerchief cases, etc.

The Progressive Drawing Books are rich in material and directions for this work.

Decorative Design: Measure inch spaces for borders by folding or ruler.

References: Nature work, pp. 2, 3, 5, 7, 9, 11, 13, 44; Design, pp. 19, 40: Construction, pp. 21, 23, 46.

Object drawing: (Pages 28, 30, 32). Pose and animal drawing: (Pages 34, 36, 38). Color: (Pages 50, 51).

Second Grade

Representation: This should be a continuation of first grade. Lead the child to more accurate representation of objects.

Construction: This work may be the same as the first year, with the addition of half inch measurement. An evelope or folder for drawings may be made for an early problem.

Design: Continue borders; using simple units in "repeat" patterns, giving attention to orderly arrangement, freedom from crowding, and proportion.

One of the primary colors or any one of the standard colors (red, yellow, green,

blue violet) may be used with a gray (not too dark or too light) of harmonious tone.

Nursery rhymes furnish good material for borders in this grade.

References: Nature Work: (Pages 2, 3, 5, 7, 9, 11, 13, 46). Design: (Pages 15, 17, 19, 48). Construction: (Pages 23, 25, 40, 42, 44). Object Drawing: (Pages 28, 30, 32). Pose and Animal Drawing: (Pages 34, 36, 38). Color: (Pages 50, 51).

Third Grade

Representation: In plant life study characteristics of growth and the relative size of parts, tones. Show dark stem and leaves with lighter flower. The same subjects should be used as in first and second grades, but varying with the interests of the class.

Construction: Teach accurate measuring to the half inch. A booklet with the cover to extend beyond the pages one-half inch, or a box for pencils with one-half inch lap to be pasted at corners.

Design: The problem for decoration in grade three should be a surface pattern for the box and book cover. Select a material of soft gray color or a neutral. Decide upon the space to be decorated and mark the entire space with dots one-half inch apart. Place the unit in alternating squares, or upon each alternating spot. Use only one color with gray or two tones of one color.

References: Nature Work: (Pages 2, 3, 5, 7, 9, 11, 13, 46, 48). Design: (Pages 15, 17, 23). Construction: (Pages 21, 40, 42, 44); Pose and Animal Drawing: (Pages 34, 36, 38); Object Drawing: (Pages 28, 30, 32).

Fourth Grade

Representation: Study plant life for the appearance of form. Draw in large masses plants showing turned leaves and flowers representing them just as they appear.

Type solids and similar objects may be drawn for form and proportion in two dimensions only, pleasing shapes of bowles and vases may be used, showing light and dark against a background of a third tone.

Tones in landscape may be studied. Draw sky light, ground middle tone with dark trees.

Construction: Measure to one-fourth inch and the foot, using rooms and articles of furniture. Drill in measuring accurately with the eye.

A good problem for this grade is construction of frames for weaving. These should be of card board, with notched end or holes punched, or of wooden frame with tacks at each end. The article to be woven will determine size and proportion

Design: The design in each grade is to be closely related to representation and construction. If the class is interested in weaving, the problem may be matching colors to be used, and border ends for rugs or mats; bags for books or change. Again use a grayish color for the body and brighter colors for the stripes.

References: Nature Work: (Pages 2, 3, 5, 7, 9, 11, 13, 46, 48); Design: (Pages 15, 17, 19, 23, 40); Construction: (Pages 21, 42, 44); Object Drawing: (Pages 28, 30, 32); Pose and Animal Drawing: (Pages 34, 36, 38); Color: (Pages 50, 51).

Fifth Grade

Representation: In plant and tree life continue the observation of form proportion, relative size of parts, showing individual character.

Object drawing should involve the study of the circle at different elevations and positions by use of familiar objects without handles, spouts, etc.

Construction: Make a working drawing for an object of two dimensions; a calendar or book cover, blotter pad, portfolio.

Design: This work may be a continuation of grade four with some complementary colors introduced.

References: Nature Work: (Pages 2, 3, 5, 7, 9, 11, 13, 44, 48, 50); Design: (Pages 19, 21, 23, 30, 32, 46, 52); Object Drawing: (Pages 34, 36, 38); Pose, Animal and Bird Drawing: (Pages 25, 27, 40, 42); Color: (Pages 54, 55).

Sixth Grade

Representation: Continue plant life from the fifth grade, introducing "accent." Work for quality of line in pencil, keeping the lines in gray tones, accenting where the shadows appear. Shade the leaves and flowers.

In object drawing, look for shadow on the object, also the cast shadow on the table by its side. Remember it is foreshadowed as well as the circle, and always represent it with a horizontal stroke.

Construction: Measure to one-eighth inch. Draw to scale. Continue the work of grade five, insisting on more and more accurate drawing.

Plan a box or bird house and make a drawing of each side on a small scale. A portfolio or book cover could be planned and drawn to scale.

Design: Continue the work in decorative arrangement to be applied to the special interest of this grade. Excellent directions for formal decorations for corners by paper cutting are given in the Prang Books.

References: Nature Work: (Pages 2, 3, 5, 7, 9, 11, 13, 46, 48); Design: (Pages 17, 27, 34, 36, 38, 40); Pose and Animal Drawing: (Pages 42, 44); Color: (Pages 54, 55).

MUSIC.

"I hear America singing", sang Walt Whitman, the bard of Democracy. And the "varied carols" which the "good, grey poet" heard were the songs which give a soul to work and which minister to the enjoyment of leisure hours. This indicates, it would seem, the true purpose of music in the people's life. And consequently the primary aim of the teaching of music in the public schools should be the enjoyment of good music and its proper appreciation. Its object is not to produce great singers. Except for a limited few, and only incidentally for them, there will be no vocational value in the study. But the study can result for all in a knowledge of at least some of the melodies that form the musical inheritance of the race, in the power to appreciate them, and in some degree in the ability to participate in the singing of them.

In a general way, it may be said that the fundamental problem in the teaching of music is "how to cultivate an affection for the subject and at the same time accomplish the drill necessary for skill". The nature of children, as well as the nature of the problem, indicates that there are two natural divisions in the elementary schools, in the first of which, from grades One to Three, the procedure is from **song** to **notation**, while in the second, from grades Four to Six, it is from **notation** to **song**.

The specific aims during the period from grades One to Three should be: (1) the awakening of musical interest; (2) the memorizing of desirable songs; (3) learning to use the voice expressively through song; (4) developing musical discrimination; and (5) learning notation. And the first step toward the accomplishment of these aims, is the proper selection of songs. The teacher is not bound to use the childish for children's singing. The child's natural characteristic of imitativeness and his consequent power to sing by rote makes it possible to teach to youngest school children even the most beautiful melodies. It is these songs that have stood the test of time and so proved their attractiveness, that will best arouse the interest of children in music. These songs should be memorized and repeatedly used, year after year, not with the idea of technical mastery, but with the purpose of bringing about enjoyment, and the power to use the voice expressively in song. As the interest in singing is aroused, it becomes natural and easy to lead the children into a better understanding of music and an increase of discrimination and skill through the learning of notation. The ability to **read music** is thus a necessary accomplishment in learning music, but it is only a means toward the end of knowing music, singing it, and enjoying it.

In grades Four to Six, because of the ages of the children, drill work can most effectively be accomplished. Here the procedure is from notation to song. If the children of these grades will not sing as expressively as the younger children or with the spontaneity of the younger ones, they can be interested in competitive trials of skill and in the problems of note-reading. Speed in notation work and music reading by phrases should here be emphasized.

The wise teacher will not limit the music of her school to chorus singing by her classes, but will endeavor to provide means for training her children in the proper appreciation of masterpieces which may be beyond the ability of children to render. For this purpose, graphophones such as the Edison, the Victrola, the Pathephone,

etc., are generally used. There is a wealth of material available for this purpose, and most manufacturers or dealers in instruments of this kind have carefully graded selections for school use.

It is eminently worth while from many standpoints for the teacher to encourage the formation of a school orchestra if possible. This can meet outside of school hours, if necessary; and in various community meetings can do much for the entertainment of the people and for the building up of a good school spirit. Especially, too, will the wise teacher promote community singing, in which not only her pupils but the adults of the community as well may take part. There is now a peculiar timeliness in such an enterprise; and it undoubtedly will do much toward making the school the real center of its community.

Texts: Congdon Music Readers and Dann's Music Course.

SECTION IV.

Junior High School, Including 7th, 8th, and 9th Grades.

OUTLINE OF STUDIES BY YEARS.

Note—The work of the **first** and **second** year of the Junior High School (7th and 8th grades) is outlined so as to provide for the subjects that our law requires to be taught in the common schools. These outlines added to the elementary section will make a complete Manual for the ordinary one-room school or other school that is not prepared to organize a Junior High School.

For the **third** year (9th grade) several subjects are listed that may be taught in an elementary way to **seventh** or **eighth** grade pupils in schools with well organized Junior High Schools. In such a school classes of students with special needs and work adapted to those needs may be organized.

Seventh Grade (1st Year Junior High School).

LITERATURE—Text: Elson's Grammar School Literature, Book Two.
Supplementary Reading: See recommendations in the discussion of the subject.

LANGUAGE, COMPOSITION AND GRAMMAR—Text: Kimball's Elementary English Book Two.

GEOGRAPHY—Re-study important parts of Frye's Higher Geography and use Geographical Readers and Bulletins.

ARITHMETIC—Text: Hamilton's Practical Arithmetic, pp. 116 to 226.

AGRICULTURE—Text: Benson and Betts' Agriculture. See outline as to use of text and material.

PHYSIOLOGY AND HYGIENE—Text: Davison's Health Lessons, Book II.

U. S. HISTORY—Text: Mace's School History, pp. 1-295.

DRAWING—Text: Applied Arts Drawing Books No. 47.

MUSIC—Text: Congdon Music Readers and Dann's Music Course.

Eighth Grade (2nd Year Junior High School).

LITERATURE—Text: Elson's Grammar School Literature, Books Three and Four.

LANGUAGE, COMPOSITION AND GRAMMAR—Text: Kimball's Elementary English, Book Two.

ARITHMETIC—Text: Hamilton's Practical Arithmetic, pp. 227-344.

AGRICULTURE—Text: Benson and Betts' Agriculture, and State and Federal Bulletins.

U. S. HISTORY—Text: Mace's School History, pp. 295-477.

CIVICS—Text: Dunn's—The Community and the Citizen with West Virginia Supplement.

DRAWING—Text: Applied Arts Drawing Books, No. 48.

MUSIC—Text: Congdon Music Readers and Dann's Music Course.

Ninth Grade (3rd Year Junior High School).

Note—From the subjects listed below a year's work suited to the students can be organized.

LITERATURE—See outline for selections to be used.
Texts: A History of English Literature—Hinchman.
American Literature—Metcalf.
Macmillan Pocket Classics.

COMPOSITION AND GRAMMAR—See outline for work to be done.
Text: English Composition—Brooks, Book I, II.

ALGEBRA—Text: Slaught and Lennes.

HOUSEHOLD ARTS—Texts: Kinne and Cooley:
The Home and the Family.
Foods and Household Management.
Shelter and Clothing.
Fuller—Constructive Sewing, Books I, IV.
(See outline for other books and suggestions.)

INDUSTRIAL ARTS OR MANUAL TRAINING—Bench Work Tablet No. 9—Burton.
The National Individual Lesson Series in Bench Work.
(See list of books recommended in outline of Industrial Arts.)

AGRICULTURE—Text: Water's Essentials in Agriculture.
Use many bulletins and outlines for farm projects. College of Agriculture, Morgantown, can furnish details of work in this subject for ninth grade. No outline is given in this Manual.

MODERN EUROPEAN HISTORY—Text: West's Modern World.
(No outline given in this Manual. The State Board will give suggestions on inquiry.)

GENERAL SCIENCE—Texts: A Year in Science—Weckel and Thalman.
Manual for A Year in Science—Weckel and Thalman.
(No outline given in this Manual. The State Board will give suggestions on inquiry.)

MUSIC AND DRAWING.
(These subjects may be offered in this year when strong teachers can be secured. The State Board of Education will furnish suggestions about the courses for ninth year on application.)

Application of Some Common Branches in Upper Grades.

Care in Writing—While no formal lessons are to be given, teachers should require good, neat writing in the usual school work. Carelessness of teachers and pupils in the upper grades and high school may make useless all of the teaching of writing in the lower grades.

Attention to Spelling—By the end of the 6th grade a pupil should know how to spell all the words he is likely to use in writing, and it should not be necessary to organize a spelling class and have a separate period for it in the Junior High School. However, teachers should not allow pupils to complete the 7th and 8th grades without proficiency in this subject. Spelling can be taught and tested through written work in other subjects, and through the dictionary habit. The text books can be used as a guide for the teacher. Omit any words not commonly used by the average person in his writing.

Seventh year—Mastery of Words, Book II, pages 42-77.

Eighth year—Mastery of Words, Book II, pages 78-117.

Geography Broadened, Enriched and Reviewed (7th Grade)—In the seventh grade geography will be studied for the most part, in connection with other subjects, such as history, civics, and agriculture, the textbook being used for reference. All the important topics in the history work should have their geographical settings carefully studied and the influences of geographic conditions should be thoroughly discussed. The making of maps illustrating historical matter should be encouraged. In the study of agriculture various crop regions should be studied and comparisons made with similar regions in other

countries. By the end of the seventh grade the student should have acquired a good knowledge of:

The general conditions which determine the distribution of life form—plant and animal.

The races of men and the civilization developed under the conditions of their environment.

The chief lines of human industry—agriculture, grazing, lumbering, fishing mining, manufacturing, commerce.

The world that will aid in interpreting literature and current events.

LITERATURE.

Seventh Grade (First Year Junior High School).

Complete the second book of "Elson's Grammar School Literature Readers." Supplementary reading should be in the longer prose and poetic classics. The year's work might consist of reproductive selections from Irving, Poe, Hawthorne, Longfelllow and Clemens. Incidentally some instruction may be given concerning the lives of these authors, but this should be brief and informal One of Cooper's stories might be studied, partly in class and partly in home readings. "The Last of the Mohicans" is particularly good.

Suggestions for teaching literature have been given under the outline for sixth grade. (See page 41.) Make the work more mature, as befits the age of the pupils and the nature of the literature. Give elementary but definite instruction about the fundamental laws of artistic writing: unity, coherence, proportion, development of plot, grouping of characters, use of descriptive passages; and give some instruction in meters; kinds of poetic feet, principles of rhythm and rhyme, alliteration, and assonance.

Have the children memorize and recite literary selections in the literary society. In case the child does not memorize easily, allow him to read a well-prepared selection from the book.

Encourage much reading of library books. The teacher should be familiar with the books in the library, and should often refer her pupils to them. The course in reading and literature that does not succeed in getting the children into the reading habit has failed in one of its important functions. Show the children how to "get the heart out of a book;" how to perceive the central idea and purpose, the leading characteristics, how the book differs from other books. Remember that the boys and the girls often want and need different kinds of books. The ideal is: Read much, read rapidly, read with intelligence and appreciation. Let the children take the books home with them or read in the school room when they have leisure.

Eighth Grade (Second Year Junior High School).

Read Books Three and Four in the Elson Grammar School Literature Readers. In case the children cannot buy both books, have them get Book Four rather than Book Three. Supplementary reading should be in the longer classics. If American authors have been studied in the seventh grade, British authors might be taken up in this year. Scott's "Ivanhoe," Stevenson's "Treasure Island,

and poems of Wordsworth, Scott, Tennyson, Macaulay, and Kipling, are valuable for this grade.

Continue the study as suggested in the sixth and seventh years. The children should learn to understand and appreciate the splendid characters in the books they read, should know them as familiar friends, should allude to them in their conversation, should admire and imitate their virtues. They should discuss and debate the various points that arise in the action, just as they do in real life.

Continue dramatization. Continue the reading of literature in literary society. Continue the reading of books in school and home libraries. Encourage children to start a small library of their own. Teach them how to discriminate between choice books and the trashy ones they sometimes find. Try to persuade each child in the eighth grade to read one book a month during the year.

Ninth Grade (Third Year Junior High School).

(Two Periods a Week.)

The literature for this year consists of classic and legendary narrative prose and a few simple narrative poems. It is best to alternate prose and poetry.

The prose for class study is as follows:

Stories from the Old Testament. Use the Bible itself or some such edition as the Riverside Literature Series No. 46, 15c. Houghton Mifflin Co.

Stories from Arabian Nights. A good collection is that found in Riverside Literature Series Nos. 117-118, 40c.

The Odyssey. Riverside Literature Series No. 43, 75c.

Other Greek Stories. Kingsley's Greek Heroes, E. P. Dutton, N. Y., 35c.

Stories of King Arthur. Use one of the following versions: Lanier's The Boy's King Arthur, Chas. Scribner's Sons, N. Y., $1.20; Pyle's Story of King Arthur and His Knights, Scribner, $2.50; Stevens and Allen's King Arthur Stories, Riverside Literature Series No. 179, 40c.

The poems for class study are as follows:

Some of Longfellow's Tales of a Wayside Inn, Riverside Literature Series, Nos. 33, 34 and 35, in one volume, 50c.

Drake's The Culprit Fay, Orville Brewer Co., Chicago, 10c.

Some of Macaulay's Lays of Ancient Rome, Riverside Literature Series, No. 45.

Whittier's Snow Bound, Riverside Literature Series, No. 4, 15c

LANGUAGE, COMPOSITION AND GRAMMAR.

Seventh Grade (First Year Junior High School).

Textbook: Kimball's Elementary English; Book II.

Omit all of Part One (the first section of the book, which contains nothing but technical grammar, most of which is unnecessary for children and far too difficult for them), referring to this part of the book as you see occasion. In Part Two complete chapter one (pages 151-187), chapter four (pages 216-229) chapter two (pages 188-194), and chapter five (pages 230-242), in the order indicated.

The teacher should test all grammatical material by examining it to see if it assists in training pupils in practical, intelligent speaking and writing; any material that does not meet this test should be rigidly excluded. In some places the teacher will have to bridge the gap left by the omitted lessons, but this can easily be done. Leave out all the elaborate and complex machinery of grammar and teach only the barest essentials. Teach these plainly and follow them up in the language of the pupils.

Continue the oral work and writing of the previous grades. Emphasize during this year the construction of sentences. They should be neither too long nor too short; an average of from fifteen to thirty words is desirable, though some sentences will be longer and others somewhat shorter. Train in mixing declarative, interrogative, exclamatory, and imperative sentences. Train in writing complex sentences; children usually express themselves too frequently in simple and compound sentences. See to it that the sentences have clearness, force, unity, coherence, and variety. Work of this kind must be done patiently and prudently, so that the children may retain their naturalness while attaining other desirable qualities. Study sentences in the literature lesson and help the pupils to model their sentences after the easy-flowing, well constructed sentences they find in the prose of good authors.

Review and apply constantly the facts and rules of punctuation. Continue the dictionary work. The pupils should now consult the large dictionary and should be trained to look not only for the meaning and spelling but for the way in which the word is used, synonyms, etc. Send the pupils to the dictionary to settle practical questions of language. For example, a child has used this sentence: "We attended the social." Raise the question as to whether "social" is the correct word and ask the pupils to find out. If you can get a child to consult the dictionary once a day, you have put him on the road to a good education.

If the diary work started in the fifth grade has not been kept up, it may be started again this year. Pupils should always be encouraged to keep account books of the money received and spent by them. Continue the writing of articles for newspapers. In country schools, send a weekly letter to a county paper. Have the children gather the items and write them out and arrange them as a class exercise.

Continue close, but kindly criticism of language, both spoken and written. Encourage the pupils to help each other. It is a good plan to group students in pairs, the two to work together in preparation, writing, and revision of com-

positions. Occasionally, keep a composition a week or two, then hand it back to the writer for his own criticisms.

A literary society should be organized this year for seventh and eighth grade pupils. Meetings should be held in the evening, if possible; and the children should elect their own officers. The teacher should serve as critic. The program should consist of music, the reading of good literature, reproductions of interesting stories and an occasional dramatization, articles on the various activities of the school, a school paper of jokes, news items, and, whenever possible, a debate. Nothing will give more encouragement to English work than a literary society.

If a society cannot be organized, the school should at least issue a weekly paper. It should be made up of the best composition work of the week, of special articles, of jokes, items, advertisements, etc. Perhaps some pupil will copy the paper on his typewriter, or perhaps a mimeograph copy can be made.

It is well to have a bulletin board upon which to post notices, programs, etc. The teacher should carefully watch the language used and criticize it as occasion offers.

A verse-making class may interest some of the pupils. It may be held at noon or after school. It is best not to take any of the regular time of the school for this work.

During this year assign much written and oral work that gives the pupils an audience or interested readers.

Eighth Grade (Second Year Junior High School).

Omit all of Part One except as directed under seventh grade work. In Part Two complete chapter three (pages 195-215) and chapter six (pages 243-258). In addition to the textbook work (which should not take more than two days a week), have much oral and written composition work based on what the children are doing, what they have seen and read, what they are interested in. Teach language all the time.

Continue the oral composition work and the writing of paragraphs and compositions. Train the pupils to consult encyclopedias and reference books to get material. Train them to organize material, make notes and outlines, and speak and write clearly, confidently, and intelligently. Assign subjects that lead to thinking but that are within the children's ability.

Continue the literary society work and everything else that leads the children to express themselves before an audience or for readers. Continue letter writing. Remember that after they leave school, about the only writing the children are called upon to do is the writing of letters; therefore, make sure that before they leave school they can write chatty, interesting, friendly letters, and straightforward, clear, accurate business letters.

Review and practice all the formal elements: punctuation, spelling, paragraphing, etc. In all the classes and throughout the day keep watch on the children's language, endeavoring to break up all bad habit of speech and especially to arouse in the children a desire to speak well. Teach the children to imitate intelligently the good qualities in the literature they read. You do not want to make authors of your children, but you should train them to borrow from the writing of authors those qualities that will make their own work better.

Ninth Grade (Third Year Junior High School).

Composition, two periods a week.
Grammar, one period a week.
Literature, two periods a week.

Composition (Two Periods a Week).

The composition work of the first year consists of the following:

First. Oral compositions, chiefly narrative. These are both reproductive (oral re-telling of stories read or told in class or read outside or stories suggested by the reading) and original. The original stories are based upon experience or observation and upon imagination. There is more original work than reproductive, and the two are alternated and mingled. An occasional oral exposition on some simple, familiar subject is assigned.

By the end of the year the students should have developed considerable power in telling a straight-forward, well-balanced story, with a point, in easy, familiar, natural English.

Second. Written compositions, chiefly short narratives, and social letters.

a. For the first half of the year the written stories consist of single paragraphs. Fables, jokes, little incidents and situations based largely on experience, accounts of games, vacations, trips, school events, etc., supply the materials out of which these paragraphs are constructed. In the last half of the year the writing of longer stories, of two, three, or four paragraphs, is practiced. The subject matter of these stories is similar to that of the single paragraphs.

b. Throughout the year the students write social letters at least once a month—if possible, every two or three weeks; these are letters to real correspondents, relatives or friends; news-letters, gossipy, chatty letters, about all those subjects which the writer and his correspondent find interesting. The students are encouraged to write idiomatically and colloquially, with animation and humor. These letters should be, in the strictest sense, **self-expression,** and the teacher should not be satisfied until his students have learned to express themselves easily and naturally, in this form of writing. Incidentally, instruction and training is given in penmanship, the appearance of the letter, paragraphing, punctuation, spelling, etc. All this, however, important as it is, is subordinated to the content of the letter.

By the end of the year the student should have attained some proficiency in writing brief, simple, well-planned stories of their own experience and observation and in writing easy, natural social letters. They should have gained some power over such details as sentence structure, paragraphing, capitalization, preparation of manuscript, and easy punctuation—especially the period, the dash, the colon, and the comma.

No text in composition is used by the class. So far as is possible, all written and oral work is based on the interests and activities of the students. There are hundreds of subjects to be found, if the teacher will but keep his ears and eyes open. If he wishes to have some books to suggest subjects and guide him in his work, he will find the following helpful:

Smith & Maxwell, "Writing in English," American Book Co., Cincinnati; Scott & Denny, "Elementary English Composition," Allyn & Bacon, Chicago Lewis, "First Manual of Composition," Henry Holt & Co., New York; Thomas, "Study of the Paragraph," American Book Co., Cincinnati.

Grammar (One Period a Week).

Grammar can be best taught in connection with literature and composition work. Very often a student fails to get the meaning from a sentence he is reading because he does not perceive the grammatical construction of certain words; that is the time to teach that grammatical construction. Very often a student makes a grammatical blunder in his speech or writing; that is the time to teach that grammatical fact. The teacher should never fail to teach practical grammar on these occasions or other occasions that may arise—though, of course, this must be incidental to the literature and composition work. This is the best kind of grammar teaching, since it comes at the moment when the student sees the value and the application of the grammatical fact or principle.

It is desirable, however, to take one period a week for definite, systematic instruction in English grammar. And the most logical time for this seems to be the first year in High School, inasmuch as a great deal of grammatical knowledge is needed in the advanced years of the course. One period a week is sufficient, after the language and grammar study in the grades, to teach all the necessary and important grammar facts and principles. It is not sufficient to **train** in the use of grammatically good language; that training must be given in the literature and language and composition work of the course and in all the activities and subjects of the school.

It may be set down as a general principle that no detail of grammar should be taught that does not have direct relation to the students' reading, speaking, and writing. Grammar should not be taught for mental discipline. Grammar should not be taught to prepare for foreign language. Grammar should be taught only as a practical aid in the arts of language expression and of interpreting the language expression of others.

No text is used by the students. The teacher develops all grammatical facts and principles inductively. The dictionary should be used to look up irregular plurals, parts of verbs, etc. A good book for the teacher to use as guide and reference is Buehler's "Modern English Grammar," Newson & Co., New York. It employs the terms recommended by the Joint Commission on Grammatical Nomenclature. The book contains much more than is to be taught the students.

During the year therefore, the following is to be taught, though not necessarily in the following order:

I. Sentences.
   - A. Classification as to form and use.
   - B. Whole and simple subject and predicate.
     - a. Natural and inverted order.
     - b. Relation of subject and predicate.
   - C. Complements.
     - a. Object of verb and preposition.
     - b. Subject complement (1).
     - c. Objective complement (2).

D. Modifiers.
  a. Words (3).
  b. Phrases.
  c. Clauses.
E. Oral sentence analysis (4).

II. Parts of Speech.
A. Nouns.
  a. General functions.
  b. Kinds: common, proper, collective (5).
  c. Properties.
    1. Gender (6).
    2. Number (7).
    3. Case (8).
  d. Other substantives.
B. Pronouns.
  a. General functions.
  b. Relation to antecedent.
  c. Kinds.
    1. Personal.
      a. Gender (9).
      b. Person (10).
      c. Number.
      d. Case (11).
    2. Interrogative.
      a. Case.
    3. Relative.
      a. Gender.
      b. Case (11).
C. Adjectives and adverbs.
  a. General functions.
  b. Distinction between.
  c. Comparison (12).
D. Verbs.
  a. General functions.
  b. Classification.
    1. As to form: regular and irregular (13).
    2. As to use: transitive, intransitive, auxiliary.
  c. Properties.
    1. Voice (9).
    2. Mode (14).
    3. Tense (15).
    4. Person and number (16).
  d. Participles and infinitives.
    1. General functions.
  e. Synopsis of verbs (17).
E. Conjunctions.
  a. General functions.
  b. Distinction between co-ordinating and sub-ordinating.
F. Interjections.
G. Prepositions.

(1) Emphasize pronounds as subject complements.
(2) Give this only brief treatment.
(3) Treat only briefly here, more fully under parts of speech.
(4) Informal and simple.
(5) Omit all other kinds.
(6) Should not be emphasized.
(7) Emphasize regular formation of plural.
(8) Emphasize possessive case.
(9) Need not be emphasized.
(10) Omit the "thou-thee" forms.
(11) Emphasize.
(12) Emphasize irregular forms.
(13) Emphasize common irregular forms often misused.
(14) Emphasize subjunctive forms of "to be." Omit imperative.
(15) Emphasize difference between regular and irregular forms. Emphasize auxiliaries in mode functions. Emphasize "shall" and "will" in future tense.
(16) Emphasize agreement of verb with subject.
(17) Do not insist on complete conjugation of verbs. Make sure that all the students know principal parts of common irregular verbs and can outline a verb from these principal parts. Emphasize "to be."

ARITHMETIC.

Seventh Grade (First Year Junior High School).

Hamilton's Practical Arithmetic, pp. 116 to 226.

Practical Measurements, p. 116. Have the pupils take measurements, formulate and solve many practical problems. Give pupils exercises in judging moderate distances and areas, testing their own judgment by actual measurements.

The more important items in the table of square or surface measure should be learned.

Units and definitions should be taught objectively until pupils have a clear knowledge of them.

Solve as many of the practical problems given in the text as the needs of the pupils seem to indicate.

Analysis, p. 155. Teach the equation and its properties as set forth in the text, taking care that the pupils really understand, not merely commit to memory.

Percentage, p. 161. Teach definitions and terms carefully, illustrating the meaning and use of each term such as **percentage, rate, base, etc.**

See that the rules for finding **base, rate** and **amount** are understood, not merely committed to memory.

In **Gain and Loss, Commission and Brokerage, Insurance, Commercial Discount, Local and State Taxes** and **Duties or Customs,** illustrate the use of all terms whose definitions are to be learned.

Solve many practical problems. Have the pupils formulate and solve practical problems.

Interest. Teach new terms the same way as in percentage. Pupils should be required to learn thoroughly one way of computing interest, and to acquire facility in the use of it.

Annual and exact interest may be omitted at the discretion of the teacher.

Teach compound interest with special application to savings accounts.

Teach promissory notes. Pupils should be able to prepare a promissory note without omitting any essential detail. Teach the terms, **maker, payee, indorse, negotiable,** and **maturity** as applied to promissory notes. Teach partial payments including the solution of problems.

Eighth Grade (Second Year Junior High School).

Hamilton's Practical Arithmetic, pp. 227-344.

The following subjects may be omitted if all the subjects outlined in the text cannot be covered in the time given,—**Exchange, Longitude and Time, Powers and Roots, Specific Gravity, The Metric System** until its use in the community economic life is established either by law or custom. **Optional** subjects, pp. 345-356.

Banks and Banking. Teach all new terms with the same care as in the seventh grade. Solve illustrative problems.

Stocks and Bonds. Teach definitions and terms, form of stock certificate, coupon. Solve many problems.

Ratio and Proportion. Teach definitions and terms, simple proportion, partition proportion and partnership. Solve problems.

Solve problems for oral and written analysis.

Government Land Measures. Teach definitions and terms. Solve problems.

Mensuration. Teach definitions and terms carefully according to directions already given. Teach finding areas of surfaces and volumes of solids. Solve many problems.

Agricultural Problems—Teach definitions and terms and solve all problems.

Test Problems, p. 324. Solve all or as many as the needs of the pupils seem to indicate.

General Review, p. 330. Solve all or as many as the needs of the pupils seem to indicate.

ELEMENTARY ALGEBRA.

Ninth Grade (Third Year Junior High School).

First Half:

1. Introduction—use of letters to represent numbers.
2. Simple equations and problems.
3. Positive and negative numbers—addition, subtraction, multiplication and division of algebraic numbers.
4. Simple equations involving these processes.
5. Factoring.
6. Equations solved by factoring.
7. Common factors and multiples.
8. Fractions—Reduction to lowest terms; addition, subtraction, multiplication and division of fractions.

Second Half:

1. Factoring reviewed.
2. Complex fractions.
3. Equations involving fractions.
4. Simultaneous equations of the first degree with two or three unknowns.
5. Powers and roots.
6. Equations involving radicals.
7. Quadratic equations solved by completing the square and by formula.
8. Quadratic equations with two unknowns.
9. Literal equations.
10. Ratio and Proportion.
11. General review and solution of many problems.

AGRICULTURE.

GENERAL DISCUSSION.

Agriculture in the seventh and eighth grades should be based upon the fundamental principles of farm science and practice. The work of these years forms a transition period, bridging the way from the nature-study of the preceding grades to the scientific agriculture of the high school. The pupil at this age is beginning to enquire into the "whys" and "wherefores" of agriculture and, while not abandoning the nature-study viewpoint, a new economic viewpoint is introduced.

Textbook.

The adopted textbook—Benson and Betts' "Agriculture"—should be used as a guide. Teachers should read carefully the authors' preface and the chapter "To the Teacher" at the end of the book to understand their point of view. The guiding principles there laid down should be kept clearly in mind throughout the course.

Supplementary Literature.

There is no other subject in the curriculum on which so much helpful literature may be secured as upon agriculture. All State Agricultural Colleges, Experiment Stations, and Extension Departments (addresses on p. 520, textbook) publish free bulletins and circulars covering practically every phase of farming and farm life. The United States Department of Agriculture has likewise published many special bulletins suitable for class use in the public school. Every teacher should have at hand a set of West Virginia Agricultural Experiment Station bulletins and "Farmers' Bulletins" (p. XI, textbook). Several good farm papers should be placed on the reading desk of every small school and the pupils should be encouraged to read them regularly.

Home Projects.

The study of agriculture in the grades should give to country-minded boys and girls—those who have a taste for farming and for country life—an opportunity to do real constructive work,—work which will enable them to create things by the use of their own hands and brains. This is, therefore, an ideal time for practical school and home projects, in the rearing of farm animals and the production of farm crops. School-directed home gardens in village and town schools, and summer projects in the country school, should be made an important part of the course. Project record forms, instruction leaflets and other helps may be secured from the Agricultural Extension Department, Morgantown, W. Va.

This is, also the time when club and contest ideas can be utilized to the best advantage. Instructions telling how to organize a club may be obtained from the State Agent in Charge of Boys' and Girls' Club work, Morgantown, W. Va.

Teachers should make the most of the "play contests" suggested at the end of each chapter in the textbook.

Seasonal Sequence.

The sequence of topics and subject matter in agriculture should be arranged according to seasons in so far as the school term will permit. A subject can be taught more effectively at the time when it engages the attention of practically everyone in the community than at other seasons For example, studying the stand of corn in the field, corn insects and diseases, effects of proper and improper cultivation, making silage, and selecting and storing seed corn, are fall subjects; while testing seed corn, methods of preparing the soil, planting and cultivating are early spring subjects. Certain phases of soil study, the care of farm animals, the care and repair of harness, tools and farm implements, and practice in farm carpentry, can be taught in mid-winter—the rest period in plant and animal life.

Surveys.

Agriculture in the grades is a local study and should be based upon local materials, practices and results. To obtain this necessary information relative to the farm interests and activities in the community—a survey similar to that suggested in U. S. Dept. of Agriculture Bulletin No. 164, p. 5, should be made by the class in connection with its study of each crop and class of farm animals. Instructions on how to make and use the farm survey may be obtained from the Agricultural Extension Department, Morgantown, W. Va.

Outline.

No attempt is made to outline the course in detail. The textbook indicates clearly the scope and character of work that may be done in the grades, and the following suggestions are intended primarily to aid the teacher in the use of supplementary materials and exercises. The course covers two years. By combining the seventh and eighth grade pupils in one class and alternating the first and second years there will be but one class in agriculture each year.

SEVENTH GRADE (FIRST YEAR JUNIOR HIGH SCHOOL).

Part I. Farm Crops.

Chapter 8. The Potato. Several lessons should be given during the first week of school on the improvement of potatoes through seed selection and on harvesting and storing the crop (pages 124-129). The class should be shown how to make hill selections of seed potatoes in the field

Chapter 1. Corn Culture. A corn survey will show that corn is grown on practically every farm. This fact alone will help the pupil to appreciate the importance of the corn crop not alone in West Virginia but in the entire United States. The characteristics of a good plant, seed selection, methods of harvesting the crop, kinds of silos and how silage is made, should be taught through direct field observations. "Topics for Investigation," pp. 21-22, suggests splendid

material for correlation with arithmetic. The seed test, study of soil preparation, planting, the corn planter, cultivation, and corn enemies should be deferred until February. (See Farmers' Bulletin No. 617, "School Lessons on Corn" for practical exercises and suggestions on how to correlate the study of corn with other subjects in the curriculum.) Have you a set of Instruction Leaflets on the One Acre Corn project?

Chapter 5. Wheat. For obvious reasons special attention should be given to the study of wheat. Pupils should consult their geography and make an outline map of the United States and of the principal nations of the world showing the important wheat growing areas. State Farm Tests show that Fulcaster and Gypsy (bearded), and China and Poole (smooth) are good varieties for West Virginia conditions. A special school exhibit showing wheat products, with booklets explaining every step in the manufacture of flour and its by-products, may be secured by writing the Washburn-Crosby Co., or The Pillsbury Co., both of Minneapolis, Minn. (See also Farmers' Bulletin 640.)

Chapter 6. Oats. An oats survey and a map showing the distribution of the crop, as suggested for corn and wheat, should be made in connection with the oats study. Oats is profitable in West Virginia because of its place in the crop rotation, not because of its large yields. "Crop Rotation and Fertility," pp. 327-330, should be studied as part of these lessons on oats.

Chapter 8. The Potato. In communities where Potato Club work is being carried out successfully the record books of the best projects may be used as a basis for class discussion. Pupils should bring half-peck samples of potatoes to the school house for a study of grades and varieties. They should learn to identify Irish Cobbler, Carman No. 3, Early Rose, Rural New Yorker, and other common varieties in the community.

Note—First of November is a good time to hold a school agricultural exhibit. Instructions on school and agricultural club exhibits may be obtained from the Director of Extension, Morgantown, W. Va. (See also Farmers' Bulletin No. 870, "The Community Fair.")

Chapters 11-14. Forage Crops, Clovers, Alfalfa, and other Legumes. When is a crop a forage crop and when is it not? Forage crops are essential in feeding all classes of live stock. Pupils should be able to explain the difference between forage crops and grain crops as feeds, and to distinguish between leguminous crops and non-leguminous crops. They should learn to identify the common forage crops by their leaves, blossoms and seed. Legumes are of special importance because of their relation to nitrogen. Cultures of bacteria for a demonstration of soil inoculation may be obtained through the County Agricultural Agent. With few exceptions our cultivated legumes are very sensitive to sour soil conditions and practically all West Virginia soils require liming before these crops grow satisfactorily. Over ninety-five per cent of the soils analyzed by the West Virginia Experiment Station are acid (see pages 325-326, "The Use of Lime on Soils"). If soybeans or cowpeas are grown in the community the county agricultural agent should be asked to explain to the class their relative merits and why the Agricultural Experiment Station recommends Wilson soybeans for our state.

Chapter 15. Meadows and Pastures. To emphasize the local importance of the study of meadow and pasture special attention should be given to the "Topics for Investigation" suggested by the authors. This important phase of West Virginia farming does not receive the attention which it merits. The

requirements for meadows should be compared with requirements for pastures, special attention being given to seeding and re-seeding.

Part II.

Chapter XVI. The Vegetable Garden. The vegetable garden offers the best opportunity for putting into practice the things studied in the class room. Every pupil in the seventh and eighth grades who is not carrying out some other Club project should be required to plant and cultivate a garden as a part of his course. Circular No. 117, Agricultural Extension Department, Morgantown, W. Va., and Farmers' Bulletin No. 936, should supplement the material in this chapter.

Chapter XVII. Fruits and Nuts. Only those fruits which are grown in West Virginia should be studied. Our climatic, soil and market conditions are especially favorable to the productlon of pome, stone and small. Special attention should be called to the splendid local market for fruits and berries in our mining and manufacturing communities. No other crop grown in West Virginia yields larger returns from a small area well tilled than does the strawberry. The Nursery Inspection Law and the Apple Packing Law are good subjects for special reports by pupils.

Chapter XVIII. The Tomato. Interest in tomato study may be stimulated by a discussion of Tomato Club work in the district and throughout the state, also by showing the class how to make cream of tomato soup for the school lúnch. Suggestions for making a district survey of tomatoes, peppers,and eggplants; organizing a tomato club; holding community exhibits, and other valuable supplementary material for this chapter are given in U. S. Department of Agriculture Bulletin No. 392, Club Instruction Leaflets and Extension Department Circular 136, "Canning Tomatoes," may be assigned to pupils for special reports.

Chapter XIX. Garden and Orchard Sprays. Actual practice in the preparation and application of Bordeaux Mixture, Lime Sulphur and Kerosene Emulsion, should be made the basis of class work. Pupils should prepare a list of the plant diseases and insect pests common in the community, indicating in each case the principal method of control.

Chap ter XX. Home Canning of Fruits and Vegetables. Full utilization and conservation of food is just as important as large food production. Every can of fruits and vegetables put up at home not only saves the cost of transportation but leaves that much more of the commercial supply of canned goods for use overseas. Pupils should be shown how to make a simple home canner.

Note. Many kinds of fruits and vegetables may be preserved by drying. Instructions for making drying racks and full directions for drying fruits and vegetables may be obtained from the Agricultural Extension Department, Morgantown, W. Va.

Part III.

Chapter XXI. Nature of Soil. A mud ball exposed to a freezing temperature illustrates what is mean by "rock weathering." A plowed field on a cold, frosty morning is another example. West Virginia soils as a rule are lacking in humus. Soil survey maps have been prepared and distributed by the U. S.

Bureau of Soils. May be secured by writing the Senator or Congressman from the district for which they are desired.

Chapter XXII. Soil Fertility and Plant Growth. A comparison of good with poor farms in the community focuses the pupils' attention upon the factors which determine yield. Further interest is aroused by letting the class handle samples of commercial fertilizers which may be secured from the nearest dealer or through the County Agent. The chief source of loss of soil fertility should be considered and special emphasis given to conservation of plant food through proper handling of stable manures. Legumes have a special value as green manure crops. If there is a lime kiln in the community this should be visited by the class. References, Farmers' Bulletin 257.

Chapter XXIII. Soil Moisture. To get an intelligent idea of the relation of texture to the movement of water in the soil the simple exercise described on p. 333 (capillarity) should be set up by the class. Samples of different kinds of soil may be taken direct from the field and dried on the stove to show the difference in water holding capacity. Similar soils taken from different fields may be dried to show the effect of cultivation on soil moisture.

Chapter I. Corn. (pp. 9-18). Seed germination tests and the study of soil preparation and cultivation should be made in early spring. In some schools all the seed corn planted in the district is tested by the agriculture class.

Part IV.

(Only swine and poultry should be studied the first year.)

Chapter XXVII. Swine. Although West Virginia is well adapted to hog raising we produce only one-half the pork consumed in this state. A district survey, records of Pig Club work, and Pig Club Instructions leaflets should be made the basis of this study in the first year.

Chapter XXIX. Poultry. The district survey, Club records and Poultry Club instruction leaflets should be used as directed for the study of poultry. Special topics for the first year are hatching, brooding, and feeding chicks; handling eggs; making an egg candler and keeping an egg record; poultry diseases, and two or three of the most common breeds found in the community; leaving the general study of types and breeds, management of the flock, marketing poultry and eggs, and poultry houses until the second year. Bulletin 144, of the West Virginia Experiment Station, shows the average farm value of poultry by counties. Pupils should compare their county with other Counties.

Note. A report on the seed corn tested by the class should be made at a community meeting or through the county paper.

EIGHTH GRADE (SECOND YEAR JUNIOR HIGH SCHOOL).

Part IV and V.

Agriculture in the second year should be correlated with and based upon actual farm problems which at this time or at some previous time have engaged the pupils' earnest attention and in which he has a strong personal interest. The home project provides such a problem. It requires individual effort and thought and affords the best means of forming in the pupils' life the habit of doing rather than talking about doing things on the farm.

One or more definite projects in agriculture should therefore be required as a

part of the second years' work. These projects should be selected on the basis of dominant agricultural interests in the community and may be in either crop or animal production, or both, thus tying the practical work up closely with either the first or second years' class room instruction.

Any of the first year projects used by members of Boys' and Girls' Agricultural Clubs in this state—growing an acre of corn, one-eighth acre of potatoes, hatching three settings of eggs and raising the chicks, raising a pig or lamb—are suitable projects for seventh and eighth grade pupils. Full instructions for carrying out these projects, record forms and directions for making an agricultural booklet may be secured from the Agricultural Extension Department at Morgantown.

Simple exercises in farm handicraft, adapted to rural schools with little more than a saw, square, hammer and a home-made bench as mechanical equipment, to supplement both project and class-room work, are fully outlined in U. S. Department of Agriculture Bulletin No. 527. Exercises in cooking products from the pupils' project may be obtained from the Agricultural Extension Department.

After a brief review of timely phases of the first years' work in agriculture, including especially the lessons on the selection and storing of seed, during which the class makes field selections of seed for the project work next season, the class-work may follow the order of Chapters IV and V of the textbook. As in the previous year special attention should be given to the suggestions under the title "Topics for Investigation." This is a device employed by the authors primarily as a means of getting local applications of the methods and principles set forth in the text.

It is desirable that pupils become familiar with the sources of the State and Federal publications designed to help the farmer and with the work of both State and Federal institutions established and maintained for the promotion of agriculture. Several lessons should be devoted to each of the following subjects:

The U. S. Department of Agriculture. The United States Department of Agriculture is divided into many bureaus and department.

It may be best for the children to think of the Secretary of Agriculture as the head. Requests addressed to him will generally secure any publications needed. It is best when requesting a bulletin to state whether it is a "Farmers' Bulletin" or "U. S. Dept." Bulletin and give the number. A little leaflet known as the "Monthly List of Publications" should come to your school. A postal card will get it.

The College of Agriculture. It is the chief business of the Agricultural Experiment Station to discover new truths about agriculture.

The Agricultural Extension Department distributes these truths among the farm folks. The College of Agriculture, of which the Experiment Station and Extension Department are a part, teaches the science of agriculture.

PHYSIOLOGY AND HYGIENE.

Seventh Grade (First Year Junior High School).

The textbook for this year, **Davison's Health Lessons, Book II,** contains many suggestions for outside reading and special exercises that should be carried out by the teacher. It is very desirable that the teacher be familiar with some more comprehensive texts on the subject. Much use should be made of Health Bulletins that may be secured from The State Department of Health, Charleston, and The Health Division of the U. S. Government, and from many other sources.

Exercises requiring attention and alertness besides strength and endurance should be used.

1. Boys—Wrestling, boxing, fencing, baseball, football, etc. Exercises to develop manly courage and daring, concentration of attention, and the spirit of co-operation. Some gymnastics and apparatus work. Since, psychologically, boys are ready for strenuous effort before they are strong enough for it, teachers must see that physical exercise is not overdone.

2. Girls—Gymnastics, light apparatus work, volley-ball, indoor baseball, basket-ball and folk games. Exercises to develop fairness, self-confidence, co-operation and womanliness. Both sexes should have acquired habits of "safety first" and knowledge of simple first aids to the injured by end of year.

UNITED STATES HISTORY.

Seventh Grade (First Year Junior High School).

We now come to a new way of looking at our history. We have been fixing our attention upon the great men as the center and have looked upon events as swinging around them. But now we change our viewpoint, and events, not the actors, are the center of study. It is "the story of the event" and not merely the story of the man. When the event is important the pupil should strive to make a "word picture" of it, so that it will appeal to the imagination. The pupil who does not picture the event he studies does not get it. The teacher should strive to set much of the material of history before the pupils as problems. Questions such as those found in the Appendix, and which the teacher can easily supplement as the occasion arises in her class, will help to present such problems.

Textbook: Mace's School History, pp. 1-295, including the periods of Discovery and Expansion, Colonization, Revolution and National Growth.

Eighth Grade (Second Year Junior High School).

The work follows in the same direction as that of the seventh grade. The teacher should use more the problem method and search for causes and effects. As the pupils get forward in the subject more and more, they should be taught to go back and pick up the threads of the subject and trace them to the point reached in the lesson. In this way the pupil is reviewing by constantly getting a new view of the subject.

Textbook: Mace's School History, pp. 295-477, including the periods of Sectional Dispute and War, and the Consolidation and Expansion.

CIVICS.

Eighth Grade (Second Year Junior High School).

Both the subject matter and the method of teaching civics have changed. There is less of text-book study of the machinery of government, and more of the civic duties of children and of youth, in the community life. This may be seen in the table of contents of Dunn's Community and the Citizen; there are nineteen chapters given to civics, and but six chapters to civil government.

The teacher should study the Introduction for Teachers in the text, with care. The point of view and the method are well presented in the introduction. The aim to develop in the pupil knowledge that will result in interest, motive, co-operation, good judgment, and civic initiative, is well stated and illustrated in this part of the text. The six questions on page XII should be kept in mind, and direct the year's work.

In chapters 1-4, have the pupils get clear notions of the growth and development of a community. Use the questions and suggestions at the end of each chapter for investigations. Do not ask for definitions, but for descriptions, illustrations, causes, growth in community. Have pupils study, bring to class, and discuss their own community growth. Start right the first day. These four chapters will require about four lessons.

Two lessons on chapters five and six will furnish you a fine opportunity to interest the home in the school and to correlate two fundamental institutions of society.

Chapters seven and eight will require four or five lessons. Have some of the references read and discussed in class. Debate in class one or more of the questions on page 46. The land is our best and richest heritage. Have the pupils see and appreciate their dependance upon the land. Its equitable distribution among the people, and its proper use and care determine local and national welfare.

Chapters nine to eighteen will require 25 to 30 lessons, or more. If the subjects are well developed by community study and reference reading, the whole community may be aroused to a newer sense of civic duty and civic pride. Make the study of these chapters result in the improvement of the families, school, churches, society of your locality; failure to accomplish these things in your community is evidence of failure on the part of the teacher in charge of the class.

These ten chapters are typical of the difference between civics and civil government. Each chapter topic may be studied without a textbook. The pupils may study topics at first hand in their locality and the knowledge acquired put to use. These are the tests of the education value of a subject. Can the subject be studied at first hand, not simply read about, and can the knowledge developed be used by the pupils while in school? Education is life.

For example, chapter 15 on education, furnishes an opportunity to study the school the pupils are attending, to develop a proper school spirit, to secure better school government, to stimulate more work, and to correlate again the home, community and school. In this chapter, as in other chapters, make large and intelligent use of the questions, topics and references at the end. Secure some

of the reference material for yourself, and loan it to the pupils to read and use in class.

The remaining chapters of the text, 19 to 25, should have 20 to 25 or more lessons. Take time to illustrate and explain the purpose of government. Every opportunity should be used to get the pupils to see and appreciate the advantages of free government. Have them understand that government is a human institution devised to provide for human welfare.

A human institution does not reach perfection; conditions change; the human race comes to have more knowledge. These things call for changes in government as well as in farming, manufacturing, etc. Have the pupils see that change in government is in the direction of the expressed will of the governed.

Study the local government in reference to the school, the streets, the roads; in like manner study the general government at every point, where the pupils come in contact with it, as postal system, taxation, etc.

The Constitution may be used as reading material. Pupils should not be required to memorize it. Read it and study it in class with the books open. There should probably be no assigned work on it in the elementary school.

Civics as a regular subject should be taught in **eighth grade.**

Textbook: Dunn's—The Community and the Citizen with West Virginia Supplement.

DRAWING.

Seventh Grade (First Year Junior High School).

Representation: Continue practice in outline drawing, strengthening the work with accented lines where necessary. Form and proportion must be continually kept in mind.

Construction: Without tools, objects of the same construction as in grade six, or articles involving the circle, such as lamp and candle shades, may be made. These may be constructed of heavy paper, or card board with the decoration cut out and lined with thin material or oiled paper.

The introduction of tools, the compass, tee-square, and triangles should be made here, and the lines of the working drawing well understood.

Designs: Make a neutral scale with about nine steps from black to white. These will be named white, high-light, light, low-light, middle-tone, high-dark, dark, low-dark, black. In making your decorations, select harmonious tones from this scale. Use both neutral washes and monochrome.

Make flower composition in silhouette. Make studies of vases and bowls arranged in circular or rectangular frame and painted in flat washes of gray, or monochrome. These arrangements can be adapted in panels and borders to the candle shades.

References: Nature Work—(Pages 2, 3, 5, 7, 9, 11, 13, 32, 46, 50); Design—(Pages 17, 21, 23, 25, 30, 48, 52); Object Drawing—(Pages 34, 36, 38, 40, 42); Pose Drawing—(Page 44); Color—(Pages 54, 55).

Eighth Grade (Second Year Junior High School).

Representation: If the pupils in this grade have had sufficient experience in the principles planned for the lower grades, they may be given more freedom and variety. Plants may be studied for their beauty of line and form, with close observation and rendering of color and texture.

Construction: Continue the work of sixth and seventh grades. Become more familiar with tools and more accurate in execution. Forms for pottery and basketry or anything to be made in the manual training shop are good.

The book-end and paper knife offer an opportunity for individuality.

Interior decoration in connection with design may be studied with much profit, in the eighth grade.

References: Nature Work—(Pages 2, 3, 5, 7, 9, 11, 13, 48); Design—(Pages 17, 19, 21, 23, 25, 27, 30, 32, 50, 52); Geometric and Perspective Drawing—(Pages 34, 36, 38, 40, 42, 44); Pose—(Page 46); Color—(Pages 27, 30, 54, 55).

MUSIC.

Seventh, Eighth and Ninth Grades (Junior High School).

The teaching staff and other local conditions will determine the time to be given to the important subject of Music in the Junior High School. The following brief discussion gives the aim and spirit of music work in these grades.

The purpose of a course in music is "to cultivate a love and appreciation of music, to develop ability to listen intelligently, and to educate the musical sense which exists in every child," to develop the power to read music readily at sight, to sing with feeling and expression, and to acquire a knowledge of good music by the best composers. In scope it should include "chorus work, song interpretation and a working knowledge of the subject." Whenever it is possible music appreciation should be cultivated through the use of victrolas or similar instruments. Several manufacturers of such instruments have carefully prepared well selected records designed to be used in this way. An acquaintance with forms of music otherwise not easily available, and an appreciation of them, can thus be cultivated.

Music cannot reach its proper efficiency in the school unless the children learn to read it. In fact, "sight singing is the technique of public school music." Children should be taught to read music as skillfully as they read language. The development of such ability tends to render the pupil independent of the teacher and thus facilitates rather than retards his musical development. It is true that the child's music sense is first developed by the singing of songs learned by imitation, but where symbols are introduced there should be no doubt left in the child's mind of their significance. Music reading is not, indeed, the ultimate aim of school music, but it is a means of hastening the accomplishment of that aim. The teaching of music reading holds the same relation to music education as the teaching of language holds to general education.

In teaching children to read music, the practice of singing **songs** directly from the notation is the best kind of drill for both ear and eye that can be given. In school singing, the child's first musical experience should be with the **song,** His study of music should be based on the song, the song should be the object of his musical training. While "special" cultivation of the voice is not the aim of public school music, care should be taken to preserve the child's voice and stimulate its growth naturally. Loud, harsh, coarse tones; strained throat muscles; low pitch in primary grades; careless assignment of parts in grammar grades should never exist."

At the beginning of the music period it is well to have a brief breathing exercise or some physical exercise with plenty of fresh air.

The adopted texts are the Congdon Music Readers and the Dann Music Readers. Both or either will furnish an abundance of excellent song material.

Strive in your school room for the joy that comes with the love of music.

Textbook: Congdon Music Readers and Dann's Music Course.

HOUSEHOLD ARTS IN JUNIOR HIGH SCHOOL.

Note: In this discussion, suggestions and outlines are given for seventh, eighth and ninth years. Local conditions may require some changes and adaptations.

Household arts may be defined as a study of food, clothing, and shelter; their relation to the individual as expressed in the diet, the clothing, the furnishing and the administration of the home; the relation of the individual to the family and society as expressed in personal and public hygiene, by means of sanitation.

In the public school the aim is to select from the vast body of rather loosely organized subject matter those principles which are essential to enable the student to know how to select, make, and care for the clothing; how to arrange, keep clean and in order the kitchen, the dining room, and bed room, how to select, prepare and serve food, and how to keep well and strong.

These principles should be of sufficient thought content to have a place in the curriculum, and their value should be judged by the need of the girls in terms of their home conditions. The purpose should be to enable the pupils to acquire a small mass of knowledge capable of immediate application, i. e., to establish a few principles by a large number of illustrations rather than a mass of abstract classification to be stored away for some future use.

No attempt should be made to subdivide the main topics of food and clothing, into such subjects as laundering, marketing, cleaning, textiles and household management. Laundering should be taught when the dish towels need washing, when the table-linen is to be used, when the article made in sewing is finished. Table service and etiquette should be taught when the dish is ready to be eaten, or when a meal is to be served, marketing when the food is to be cooked. The pupil should be taught how to clean the table, the drawer, or refrigerator, when they need it. A study of textiles should be made when the material needs to be selected. For example, how to tell linen toweling should be taught when hemming a dish towel, and the difference between cotton and linen huck, when making a guest towel.

Credit.

The same amount of credit should be given to cooking and sewing as to any other grade or high school subject. A unit of credit means in these subjects the same as in a science subject.

Textbooks.

(See adopted textbooks in "Outline of Subjects by Grades.")

While there is no entirely satisfactory text on the market a text should be in the hands of the pupils during the study period to learn methods of manufacture, table service, and manufacture of textiles.

Under present war conditions the pupils should make their own recipe books from recipes given by teacher rather than to try to modify recipes in the text. For this reason the school text should be the property of the school.

List of Reference Books in Sewing For Public Schools.

EEEMENTARY.

1. Constructive Sewing—Fuller.....Industrial Book & Equipment Co., Indianapo lis, Ind.
2. Food and Clothing—Osborne.....Row, Peterson & Co., Chicago, Ill.
3. Clothing and Health—Kinne & Cooley.....Macmillan Company, New York, N. Y.

HIGH SCHOOL.

A. Shelter and Clothing—Kinne & Cooley.....Macmillan Co., New York, N. Y.
B. The Home and the Family—Kinne & Cooley.....Macmillan Co., New York, N. Y.
C. A Sewing Course—Woolman.

List of Reference Books For Cooking in the Public Schools.

ELEMENTARY.

1. Austin's Domestic Science Book, Books I and II.....Lyons and Carnahan, New York City, N. Y.
2. Food and Clothing—Lena Osborne.....Row Peterson and Co., Chicago, Ill.
3. Basic Principles of Domestic Science.....Industrial Book and Equipment Co., Indianapolis, Ind

HIGH SCHOOL.

1. Domestic Science Principles and Application—Bailey.....Webb Publishing Co., St. Paul, Min n.
2. The Textbook of Cookery—Greer.....Allyn and Bacon, New York, N.Y.

FOOD COURSES.

The study of foods in public schools should include knowledge of what is needed to learn how to select what to cook; how to cook it; how to combine it with other foods in a meal; and how to serve the meal with the least expenditure of time, energy, labor, and money.

The laboratory work should precede or parallel that of the classroom. Those principles should be taught which the pupil needs in order to understand why certain processes are essential in the preparation of the dish—that is, abstract classification belongs to the college and not the public school. On the other hand, a study of foods which has as its aim mere mechanical skill, learning how to make a good tasting dish by following the directions of the recipe, has no place in an educational system.

The outlines presented include the types of dishes necessary to illustrate the principles of cooking the different foods. In order to establish these principles, it is necessary to cook more than one dish as an illustration. That is, in teaching the principles of cooking cereal, it is necessary to teach how to cook a raw cereal and a partly cooked cereal, but the principle of the cooking starch is not established until the pupil has cooked starchy vegetables and starchy powders.

Since the dominant idea is the meal there should be short recurring sequences rather than to teach one after the other all dishes necessary to establish a type. The time of year and locality will influence the dishes chosen. For instance, the type "flavor vegetables" cannot be established until fall, winter and early summer vegetables have been cooked.

The work should be gradually increased in complexity of manipulation and thought content as pupils develop skill.

The work of the second year involves the same principles as that of the first. The types established in the first year are reviewed by using more complicated processes. In the first year, fruits were cooked, in the second year, they should be canned. Plain vegetables are cooked in the first year, and in the second year, they should be combined with other food material.

SEWING COURSES.

The study of clothing includes a knowledge of what is needed to learn how to select clothing; how to make clothing, how to keep it in repair; how to launder clothing.

In learning to sew the first article should be one which can be finished in a short time so that the pupil does not grow discouraged and lose interest.

The material to be used for each article should be studied before purchase to be sure that it is appropriate for the purpose as to weave, finish and color, that it has good wearing qualities, will launder well and not muss easily.

There is no place for making of models in the sewing courses. The stitch may be practiced a few times on a piece of cloth but skill is acquired in making the article.

The note book is of value to record samples of textiles studied and stitches and finishes used for specific purposes.

Pupils should learn to darn stockings and repair the clothing.

Under present conditions as little new material as possible should be bought. No bit of cloth should be thrown away.

The finishes for the underclothing should be neat, simple and easily laundered. The use of lace and elaborate trimming should be discouraged. The material for the dress should be chosen from cloth with a firm weave and smooth finish so that it will not ravel easily, or sag. If the teacher plans the work to suit the inexperience of the pupil and gives clear directions, there is little need for ripping. Since this is the time when the pupil is forming her notions of what is good in dress the design should be simple so that it can be finished in a neat manner. The mistake is too often made of permitting the pupil to undertake a very complicated problem such as a tailored suit or lingerie dress which is beyond her skill and so establishes careless habits in sewing with shoddy finishes.

The Red Cross work forms a part of the years' work but in the majority of programs it should not exceed one-third of the years' work. It should form a part of the course in the development of the uses for the different stitches and finishes on different materials.

DIVISION OF TIME.

The course as outlined is planned to give first year sewing in the seventh grade and first year cooking in the eighth grade. It is possible, however, and under some conditions it may be desirable to give a semester of sewing and then a semester of cooking in the one year.

Seventh Grade Sewing (First Year Junior High School).

First Semester.

Towel for the cooking outfit—about 2 lessons.
Holder — about 2 lessons.
Sewing apron — about 5 lessons.
Christmas article — about 2 lessons.
Pincushion — about 2 lessons.
Red Cross work
Binders
Hem diapers.

Second Semester.

Bag — about 4 lessons.
Cooking apron — about 7 lessons.
Red Cross work
Booties
Knitting. (Wash clothes and blanket squares.)

Ninth Grade Sewing (Third Year Junior High School).

First Semester.

Machine lessons — about 3 lessons.
Nightgown — about 6 lessons.
Teddy bear — about 8 lessons.
Red Cross work
Coats, dresses, waists, knitting.

Second Semester.

Petticoat — about 15 lessons.
Graduating dress — about 30 lessons.
Red Cross work
Shirts, blanket, cape with hood.

Seventh Grade Sewing (First Year Junior High School).
(One Period a Week Throughout the Year.)

Article	Material	Purpose
Towel, (2 lessons)	¾ yds. toweling, colored floss, cost, 15 cents.	To straighten ends of materials by drawing threads. a. Turn narrow hem. b. Use of gauge. c. Accuracy of measurements. d. Correct method of pinning. e. Basting stitch. f. Hemming stitch. g. Chain stitch.
Holder, (2 lessons)	⅙ yd. doubled face flannelette. ⅙ yd. of muslin, or longcloth, flannel, etc., or scraps of material from home. 1 yd. of ½ inch white cotton twill tape. 1 bolt of white bias binding, ¾ inch wide.	To bind edges of circle. To teach running stitch and method of joining tape.
Sewing Apron, (5 lessons)	¾ yd. barred dimity. 1 skein colored floss. 1 snap fastener. Approximate cost, 25 cents.	To make apron to be used in sewing. If made of heavy material, apron may be used as a traveler's aid, or if bound with tape, a clothes pin bag. To teach: a. Turning of hem. b. Feather stitching or some simple decorative stitch. c. Running stitch and stroling. d. Putting on a gathered band. e. Back stitching. f. Sewing on snap fastener.
Bag, (4 lessons)	½ yd. linen crash, denim, chambray, etc. 2 yds. cord. 1 skein colored floss. Approximate cost, 25 cents.	To learn to make a sewing bag to hold sewing, tools and materials. Different uses of bag.
Pincushion, (2 lessons)	Scraps of material brought from home. Two pieces 3½ x 3½ inches for lining. 2 pieces of 3½x3½ inches for cover. Sawdust for filling.	To make a pincushion to be used in sewing. Suggest uses of different kinds of material and modifications in design of pincushion.
Apron, (Cooking) (7 lessons)	1¾ yds. calico, percale or linen. 1 bolt of rick-rack or colored scalloped edging. (5 or 6 yds. in bolt)	1. To make a kitchen apron to be used in cooking class. 2. To teach: a. Laying a curved hem. b. Use of and sewing on of rick rack, and scalloped edging.

Ninth Grade Sewing (Third Year Junior High School).

One unit to be done either in five periods a week for one year or three periods for two years.

Machine Lesson, (3 lessons)		To teach care and use of sewing machine. Things To Be Taught: a. Relation of parts of machine. b. Cleaning and oiling. c. Plain stitching. Use of guides in straight stitching.
Nightgown, (6 lessons)	3 yds. muslin. 1 bolt scalloped edging. Cost approximate, $0.75.	To draft nightgown pattern. To teach: a. Making of French seams. b. Laying a hem that curves up at sides. c. Putting in of gussets. d. Neck and arm finish.
Teddy Bear, (8 lessons)	Longcloth. Amount: twice length from shoulder to knee plus 4 inches. Face eding for neck and armholes. 1 bolt of ¼ inch bias binding. Buttons. Cost, approximate, $0.75.	To teach good taste in selecting materials and design for underwear. Use and modification of commercial pattern.

Article	Material	Purpose
Petticoat, (15 lessons)	3¾ yds. 36 inch muslin or longcloth. For ruffle ⅔ yd. extra material. Embroidery ruffle, 3 yards, 1 spool No. 70 thread.	1. Use and modification of commercial pattern. 2. Review hemming, making French seams. 3. Making a placket.
Dress, (30 lessons)	Galatea, poplin or Devonshire cloth. Cost, not over $5.00.	To make graduation dress. Selection of suitable design and material. Use of commercial patterns and modifications.

OUTLINE FOR COOKING COURSES.

It is not desirable to divide the work into the semester as so much depends upon local conditions and the season as to the time that the different dishes illustrating the types should be taught. At the end of the year the teacher should check her work according to the outline given for types to be certain that she has omitted none and that she does not over emphasize one that does not play an important part in the diet.

The following outlines should be suggestive in planning the parts of the lesson so that by the end of the course all of these points have been taught.

Table Service—First Year.

Tea or a fruit drink to pupils and teacher (no guests).

Party either as a part of the social activities of the school for holidays or to the mothers.

Service for individual cover at the desk.

One course at the table—one dish with little manipulation (second cereal lesson).

One course at table—two dishes—one a drink.

A meal with two courses, breakfast or supper.

Second Year Cooking.

Breakfast, dinner, supper, picnic lunch, lunch basket.

Outline for Housekeeping.

Cleaning, kitchen knives, silver, glassware, tinware, aluminum, crockery, sink, refrigerator, stove, garbage can, furniture in dining room, floor in kitchen and dining room, woodwork.

Outline for Laundry.

Removal of stains, kitchen apron, kitchen towel, table linen. Launder the kitchen and dining room linen at the time that it is needed. Launder sewing articles as finished.

Eighth Grade Cookery (Second Year Junior High School).

(One period a week throughout the year.)

Text for pupil:

Type	Purpose	Dish
Fruit (2 lessons)	Stewed fruit. Baked fruit.	Apple sauce. Baked apple.
Cereal, (2 lessons)	Partly cooked. Raw. Use of left over.	Flaked hominy or rolled oats. Cornmeal. Sauted mush
Flavor Vegetables, (3 lessons)	Strong. Mild.	Cabbage plain or Onions creamed or scalloped. Tomatoes, scalloped.
Starch Vegetable, (4 lessons)	Baked and Sauted. Boiled and creamed or mashed. Steamed. Scalloped.	Potato. Potato. Rice. Rice with Cheese.
Eggs, (3 lessons)	Effect heat. Thickening Agent (Baked). Lightening.	Scrambled. Custard. Sponge cake (may omit).
Fish, (1 lesson)	Canned—with starch food.	Salmon loaf.
Soup, (2 lessons)		Tomato Cream Soup. Potato Cream Soup.
Bread, (4 lessons)	Quick.	Griddle Cakes—1 (sour milk). Muffins—2. Eggless (Cornmeal). Egg (Barley flour). Baking Powder Biscuit.
Yeast Breads,		Sandwiches
Desserts, (2 lessons)	Starchy.	Starch and milk. Cornstarch Pudding. Milk and Eggs. (See eggs.)
Batter Series, (1 lesson)		Gingerbread.
Cakes and Cookies,		Cheap cake. Cookies, drop.
Candy, (1 lesson)		Peanut Brittle. Popcorn Balls.
Beverages, (1 lesson)		Cocoa and sundries.
Total, 28 lessons		

There should be some form of a review every six weeks—also some in Table Service.

Ninth Grade Cookery (Third Year Junior High School).

One unit to be done either in five periods a week for one year or three periods a week for two years.

Type	Purpose	Dish
Fruit, (3 weeks)	Canning	Tomatoes.
		Peaches.
		Berries.
	Fresh—Baked.	Rhubarb.
		Seasonal fruit cooked in syrup.
	Dried.	Stewed Apricots or Prunes or Apples
	Jelly.	
	Jam.	
	Relish.	Scallop Apple.
	Drying.	Fruit Whip.
Cereals, (1 week)		Breakfast food.
		A fine meal served with fruit.
	Vegetable.	Rice or Sauted Hominy.
	Dessert.	Molded rice with fruit.
		Oatmeal pudding.
	Left over.	Rice or oatmeal muffins.
Flavor Vegetables, (2 weeks)	Strong.	Cabbage scalloped.
		Carrots creamed with peas.
		Turnips creamed and mashed.
	Mild.	Greens, plain.
		Asparagus, buttered or on toast.
		Peas.
		String beans (with meat).
		Tomatoes sauted.
		Stuffed onions.
		Beets or sour sauce.
		Scalloped corn.
Starchy Vegetables, (3 weeks)		Potato.
	Boiled and sauted.	Sweet potato.
	Baked and mashed.	Sweet potato.
	Sauted.	Parsnip.
	Vegetable.	Rice—with flavor vegetable (tomato or pepper)
		Croquettes.
	Dessert.	Rice pudding with milk.
	Left over.	In muffins or griddle cakes.
	Meat substitute.	Rice with cheese and egg with creamed meat with rice border or cooked with small amount meat.
Eggs, (1 week)	Effect heat.	Poached on toast.
		Soft boiled.
		Hard cooked (a la Goldenrod).
	Thickening	Boiled custard.
	Lightening.	Omelet.
		Souffle.
Fish, (Fish, Legumes, Cheese) (3 weeks)	Fresh (if in locality)	Sauted fish.
		Boiled and baked fish.
	Dried.	Creamed codfish, with starchy food.
		Turbin of fish (with potato).
		Fish balls (with potato).
	Canned.	Fish chowder.
Legumes	Vegetable.	Green lima beans.
	Meat substitute.	Souffle.
		Cream soup.
		Baked.
Cheese,	Meat substitute.	Rarebit.
		Fondue.
		Cheese and rice or macaroni.
		Cottage cheese.
Nuts,	Meat substitute.	Nut loaf.

Type	Purpose	Dish
Meats and Soups, (3 weeks) Meat	Tender cuts.	Prime rib roast. Steak (demonstration).
	Tough cuts.	Meat loaf or hamburg. Swiss steak. Stew. Pork chops. Pot roast.
	Poultry.	Meat extenders: With rice. With cornmeal (Tamule Pie). With potato.
Soup,	Vegetable.	Vegetable. Cream soups. Bean. Celery.
Bread, (3 weeks)	Quick.	Cream toast. Griddle cakes. (Bread crumbs, yeast, buckwheat) Waffles (corn flour). Spoon corn bread. Muffins (3 to 4). Eggless (Barley). Egg—corn flour. rolled oats. Loaf (wheatless using sour milk or sweet milk, rolled oats and barley) Boston brown bread.
Yeast Bread, (1 week)		Cornmeal. Barley.
Desserts, (3 weeks)	Starch. Starch and milk. Starch and fruit. Starch and eggs, milk. Milk and eggs. Egg and fruit. Batter.	See cereal. Rice pudding. Apple tapioca. Tapioca or rice pudding. See eggs. Prune souffle or apple whip. Cottage pudding. Short cake. Stewed pudding.
	Pies (one crust and use wheat substitute).	Fruit. Apple. Custard. Lemon. Cream or chocolate.
	Gelatine.	Fruit—lemon. With egg—lemon snow. With egg, milk and cream—Bavarian cream.
	Fruit. Frozen dish.	Fresh in season—fruit. Fruit ice or sherbet. Ice cream.
Cakes or Cookies, (1 week)		Sponge cake (cheap). Yellow cake. White cake. Spice cake. Chocolate cake. Cookies.
Candy, (1 week)		Marshmallow. Taffy. Caramel. Wartime Sweets.
Beverages,		Reception cocoa. Tea. Coffee.
Sandwiches and lunch box.		
Total 26 weeks.		

INDUSTRIAL ARTS.

The Problem of Industrial Education.

During the past ten years, much interest has been manifested in vocational education, and great advances have been made in the way of detailed working-out of programs, organization, and procedure.

At the present time, there is a much keener appreciation than ever before of the value of vocational education, as it is seen that both the present and future existence of this country is, to a large extent, dependent upon its industrial workers.

When one considers the education of future industrial workers, it is necessary for him to seek information concerning:

1. The various types of vocational intelligence.
2. The time when boys and girls may be expected to give evidence of vocational intelligence.
3. The discovery and fostering of natural aptitudes.
4. The classification of industries on the basis of the mental and physical abilities required.
5. The kind of industries for which vocational education may be given.
6. The cost of the various forms of vocational education.

Among the movements in education, which seem to give great promise of assistance in the solution of these problems, is that of the junior high school, which, recognizing that large numbers of boys and girls are destined to enter industrial occupations, assumes three obligations with reference to them:

1. To lay the foundations, in so far as it is possible, of that knowledge and appreciation of human achievement which will enrich their present and adult lives.
2. To assist the boys and girls in the making of a choice of the life work in which they will be most content, and most efficient.
3. To train for citizenship, by developing a sense of social obligation.

It is of the second of these obligations, which the junior high school has assumed, that this program will chiefly treat, namely the obligation "To assist the boys and girls in the making of a choice of the life work in which they will be most content, and most efficient."

The industrial opportunities of the average community are such that an acquaintance with the industries will be a promising form of vocational assistance to be offered these pupils about to enter gainful occupations.

How the Problem May Be Attacked.

The problem may be attacked by readjusting the present manual training courses in such ways as to give more varied industrial knowledge and industrial experience.

In the selection of the industries for study and investigation, five considerations which bear upon this choice may be noted in order of importance.

1. General importance and extent of the industry.
2. Local importance.
3. Dependence upon a distinct and comparatively high type of ability.

4. Desirability as an occupation.
5. Practicability of reproducing processes in school.

The relative importance of the local industries may be ascertained from the United States Census Report, which shows for each city and state, the number of persons employed in various lines of work.

Upon the basis of the five considerations already mentioned, each of the following groups are entitled to a place in the program, and in the order named, barring special local conditions.

1. Building Trades:
   - Carpentry,
   - Woodworking,
   - Masonry, stonework, and concrete construction,
   - Painting and glazing,
   - Plumbing and pipe-fitting.
2. Metal and Machine Trades:
   - Structural ironwork,
   - Foundry work,
   - Machine shop work,
   - Blacksmithing,
   - Engineers and firemen.
3. Machine Operating Trades:
   - Weaving of textiles,
   - Clothing manufacture,
   - Shoemaking and leather work,
   - Other metal work.
4. Electrical work.
5. Printing.
6. Agriculture.
7. Mining (of high rank numerically, but highly localized).

Methods of Approach to the Study of the Industries.

The methods of approach to the study of the industries represented in the program should include the following:

1. A knowledge of the facts relative to the materials used.
2. Sources and preparation of materials.
3. Technical processes involved in the manufacturing of the materials into useful products.
4. The performance by the pupils of work of interest to them, from which they will obtain a knowledge of industrial processes.
5. A study of the workers, including wages, hours of labor, apprenticeship, the position of the industry in society, etc.

Experience has shown that pupils derive great benefit from industrial work which is conducted upon the project basis.

A project has been defined as "A job, for all of which the pupil is held responsible, and in the doing of which he receives training, not only in the manipulation of tools and machines, but in the application of such subjects as arithmetic, drawing, science and English, in so far as they may be necessary to the proper completion of his task."

Among the projects suitable for school work may be mentioned the following: bookbinding, repacking faucets, scraping and finishing school room desks and

tables; setting glass; cleaning, oiling and sharpening lawn mowers; repairing broken furniture; reseating chairs; oiling floors; painting woodwork and ironwork; grading; building concrete walls and walks; the making of school equipment, such as wooden cases, looms, cupboards, tables—playground apparatus, hurdles, jumping stands, etc.; printing school report cards, programs, envelopes, garden inspection cards, etc.; work in sheet metal; machine shop work; photographic work, and electrical work.

The projects, mentioned above, are to be considered as suggestions as to what can be done profitably by boys.

Such projects are to be assigned to a pupil, or group of co-operating pupils, by the instructor, the pupils being permitted, in so far as it is possible, to elect the kind of work which they wish to do.

Pupils may also be permitted to undertake projects of their own, after these projects have been submitted to the instructor and received his approval.

All pupils are expected to complete the projects undertaken by them.

Equipment of the School Shop.

In the work of the various projects, hand tools of all kinds, lathes, drilling machine, planer, grindstone, gas-engine, printing press, cameras, forges, anvils, electrical supplies, concrete, benches, etc., will be required.

In addition, these should be accessible for use, samples of work obtained from commercial channels, technical books and magazines, trade papers, catalogs and advertising matter devoted to the arts and crafts, as well as books and magazines describing modern progress in the fields of invention, manufacturing and engineering.

From these models, books and papers, the pupils will obtain inspiration, suggestions, and working directions. With regard to the experience and manner of equipping such a shop and the conduct of the work the following is offered.

How Equipment May Be Obtained.

At the present time, every school which has offered courses in manual training has an equipment of wood-working tools, and in some schools, metal working and other tools will be found.

Other equipment, such as tools, books, magazines, machines, and supplies, can be secured from the local community by gift, loan, and purchase.

Factories, farms, offices, and homes, frequently discard equipment which can be overhauled, repaired, and rendered serviceable for school use. Second-hand tools, machines, books, and supplies of various kinds may be purchased.

As the pupils become skillful in the use of tools and machines, much of the equipment may be made and kept in repair by them.

Advantages Gained from a Good Equipment.

Boards of Education should bear in mind, however, that while second-hand tools, machines, and material may serve the needs of the classes of the junior high school, a shop equipped with modern tools and machinery would not only serve such needs but the needs of the senior classes of the school and of evening

and continuation school classes, thus giving to the community large returns upon the investment.

While it is recognized that appropriations of money will be required to support this work, such appropriations need not be greatly in excess of these now used for the work in manual training.

Furthermore, if it can be shown that through shops of this type, school buildings are kept in repair, a variety of equipment made and repaired, buildings and rooms painted, tools sharpened, forms and leaflets printed, a part of the cost at least will be offset.

Qualifications of Teachers.

Any manual training teacher with some encouragement, special training, and possessed of the following qualifications can organize and conduct this work.

1. He should be a "handy man," a man, who can through observation, reading, and study acquire the knowledge and the skill which will enable him to do a variety of mechanical and semi-technical work.

2. He should possess a thorough knowledge of at least one of the trades which he is to teach, and a working knowledge of several of the other trades taught in the room. For example, a skilled carpenter might possess some knowledge of sheet metal work, forge work, and machine shop work.

3. He should possess an ability to handle boys, and without antagonizing them, secure a maximum amount of output on their part with a minimum amount of effort on his part.

Such a man will be a leader as well as a teacher.

4. As the instruction will be given to individuals or to small groups, the teacher should possess sufficient organizing ability to enable him to supervise the various kinds of work which are being done at the same time, and to assign some of the teaching or supervisory work to the more highly skilled boys in the class.

Methods of Teaching.

In the outline of the methods to be used for the conduct of the work, let us assume for the purposes of our discussion a class of 30 boys who have met on the first day of the school term in a room containing the following equipment: 12 manual training benches, wood-working tools, drawing boards and instruments, 2 wood-turning lathes, 2 metal turning lathes, 2 forges and anvils with tools, a drilling machine, a grindstone, a drill grinder, a power driven saw, a printing press and equipment, tools for sheet metal work, place and tools for concrete work, tools and machines for bookbinding, and tools and supplies for electrical work.

The teacher addresses the class, describing to them the nature and character of the work which may be done in the shop with a brief outline of work which is to be done immediately.

A description of the equipment already in the room and the care and precautions necessary to be observed in its use should also be given, and a desire expressed on the part of the instructor that the boys help to secure additional tools and material.

The boys are to be impressed with the fact that the shop is to be conducted

like a regular shop, and the systems of tool checks, and tool room, time cards, job requisition cards, job record cards explained to them.

It would be unwise at this time to mention the question of order and discipline because the boys in this shop are to be kept so busy that they will have no inclination or desire to get into mischief.

If breaches of discipline occur they should be handled quietly but effectively.

At the close of this class period the boys should be told that one of the purposes of the shop is to enable them to make things of interest to themselves, and they are to have ready for the next lesson a description of some article which they wish to make.

When the class meets on the second day, instructions should be given to them in the making of mechanical drawings which may consist of copying on a reduced scale large drawings of details of a project in woodwork, previously made by the instructor, and all of the boys with the exception of four be set at work making drawings.

These four boys are to receive instructions in the elements of wood turning, the instructor explaining to them the mechanism of the lathes, and of a good textbook which should be placed in the hands of the boys.

Some demonstration work on the part of the instructor, is to be done and the boys given an opportunity under the supervision of the teacher of operating the lathe.

Blue prints of certain parts of the wood-working project which are to be made upon the lathe should be furnished the boys and such explanations as seem necessary given to them.

The boys are then to be given some waste wood and instructed to use it for practice purposes in the making of parts assigned to them.

A group of eight boys should next be taken from those at work in the drawing department and given instructions in getting out and preparing some of the material necessary for the woodworking project.

The instructor should proceed in this manner until all members of the class are engaged in some form of industrial activity connected with the making of the project in woodwork which might be the making of low tables or benches for the kindergarten department.

As fast as a boy completes in a satisfactory manner the work to which he has been assigned he is to be reassigned to another group where as an observer he learns from the other boys how the work is to be done and after some practice, is given a portion of the work to do.

Those boys who show particular skill in a given operation can be used as assistant instructors as the needs may arise, thus enabling the teacher to devote his attention to boys who need his instruction.

Cards are to be used to record the kind of work upon which a boy has been engaged thus affording a means of grading him and ensuring that he has a variety of experiences in industrial work.

As the boys become proficient in the use of the tools, machines, and equipment of the room, repair work and a variety of projects may be undertaken.

Books giving information about the processes involved are to be accessible to the boys and they are to be left as much as possible to themselves in the working out of their problems, the teacher acting in the capacity of shop foreman, namely, as adviser, inspector, and controller of the outfit.

It will be recognized that there must be a large amount of flexibility in the development and conduct of this work. Such problems, as may arise, how-

ever, have to do, largely with matters of detail, and the methods required for their solution depend in a large measure upon the conditions which produced the problems.

Any person desiring further information or assistance should write to Professor Benjamin T. Leland, Morgantown, W. Va.

Industrial Arts Reference Books.

Cockerell Douglas. Book-binding and the Care of Books—Appleton	$1.20
Jack, G. T., Wood-carving—Appleton	1.40
Crawshaw, F. D., Problems in Wood-Turning—Am. Bk. Co	.90
Sleffel, C. C., Work in Metals—Doubleday, Page & Company	
Lewis, M. H. & A. H., Popular Handbook for Cement and Concrete Users—Henley	2.50
Anthony, G. C., Elements of Mechanical Drawing—Heath	1.50
Weber, W. E., Electrical Construction Elementary Course—Manual Arts Press, Peoria, Ill	
No. 91. Operation of the Lathe, Part 1	
No. 92. Operation of the Lathe, Part 2	
Thatcher, Simple Soldering—Spon and Chamberlain	.50
Bailey, R. C., The Complete Photographer—Doubleday, Page & Co	3.00
McClellan, G. E., Practical Typography—Manual Arts Press	1.50
Brownlee, R. B., Chemistry of Common Things—Allyn	1.50
Popular Mechanics Company, Chicago, Ill. The Boy Mechanic	
Goss, W. F., Bench Work in Wood—Ginn	.70
King, C. A., Constructive Carpentry—Am. Bk. Co	.80
Gowin & Wheatley, Occupations—Ginn & Co	
Manual Training and Vocational Education—Manual Arts Press, Peoria, Ill	2.00
Industrial Arts Magazine	

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